



Early Riders

THE BEGINNINGS OF MOUNTED WARFARE
IN ASIA AND EUROPE

Robert Drews

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CONTENTS

	<i>List of illustrations</i>	vii
	<i>Acknowledgments</i>	ix
	<i>List of abbreviations</i>	x
1	Introduction	1
2	Horsemeat	8
3	Speed	26
4	Control	56
5	Plunder	86
6	The Iranian empires	107
7	Hoplites and horsemen	121
	<i>Notes</i>	130
	<i>Bibliography</i>	170
	<i>Index</i>	182

ILLUSTRATIONS

2.1	Map of Pontic-Caspian steppe	10
2.2	Antler-tine “cheekpieces” from Dereivka, <i>ca.</i> 4000 BC	13
2.3	Incised <i>Stangenknebel</i> from Hungarian plain, second millennium BC	14
2.4	Antler adzes from Dereivka, <i>ca.</i> 4000 BC	15
3.1	Drawing of animal frieze on silver vase from Maikop	27
3.2	Tablet with sealing of Abbakalla of Ur, <i>ca.</i> 2030 BC	28
3.3	“Cavalier” figurines from Syria, <i>ca.</i> 2000 BC	29
3.4	“Persian” rider figurines, <i>ca.</i> 500 BC	30
3.5	Tell es-Sweyhat figurine, <i>ca.</i> 2300 BC	31
3.6	Mesopotamian plaque showing horse and rider, <i>ca.</i> 2000–1750 BC	33
3.7	Plaque found at Kish showing horse and rider, <i>ca.</i> 2000–1750 BC	34
3.8	Sealing of a god sitting on a horse, Kültepe, <i>ca.</i> 2000 BC	37
3.9	Reference map of pertinent sites in Asia	39
3.10	Petroglyph at Kamennaja Mogila, near Melitopol, southern Ukraine	40
3.11	Egyptian limestone relief of rider, late Eighteenth Dynasty	45
4.1	Bronze relief of Assyrian riders, Balawat Gates, Shalmaneser	57

III, 858–824 BC

4.2	Stone relief of barbarian riders, from Kalhu palace of Ashurnasirpal II, 883–859 BC	58
4.3	Felt wall hanging from Pazyryk, Kurgan 5, late fourth century BC	64
4.4	Map of Mesopotamia and Iranian plateau	66
4.5	Bronze bit from Luristan, probably ninth century BC	68
4.6	Organic bit—cheekpieces of antler, mouthpiece of bone found at Corcelettes, Switzerland, 1500 BC?	72
4.7	Bronze “Hyksos” bit found near Gaza, <i>ca.</i> 1500 BC	76
4.8	Two jointed snaffle bits from Luristan, ninth or eighth century BC	77
4.9	Jointed snaffle bit found near Kislovodsk, Russia	79
4.10	Jointed snaffle bit found near mouth of Psekups river, Russia	79
4.11	“Severe” jointed snaffle bit	80
5.1	Skythian bowmen on gold plaque from Kul Oba kurgan (K.O. 65), in Crimea, fourth century BC	87
5.2	Bronze figurine of a horseman atop a Greek <i>lebes</i> , fifth century BC	88
5.3	Fragmentary cylinder seal, first millennium BC, depicting a rider making a “Parthian” shot	89
5.4	Lower register, painted lid of Klazomenian sarcophagus, early fifth century BC	90
6.1	Drawing of “King’s Weapons-Bearer” from Apadana relief, Persepolis, early fifth century BC	115

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ABBREVIATIONS

AJA	<i>American Journal of Archaeology</i>
ANET	Pritchard, J.B., ed., <i>Ancient Near Eastern Texts Relating to the Old Testament</i> (3rd revised edition) Princeton: Princeton University Press, 1969
AR	<i>Archaeological Reports</i>
BAR	<i>British Archaeological Reports</i>
BASOR	<i>Bulletin of the American Schools of Oriental Research</i>
BSA	<i>Annual of the British School of Archaeology at Athens</i>
CAH	<i>Cambridge Ancient History</i>
CANE	Sasson, Jack, ed., <i>Civilizations of the Ancient Near East</i>
CAJ	<i>Cambridge Archaeological journal</i>
FrGrHist	Jacoby, Felix, ed., <i>Die Fragmente der griechischen Historiker</i> . Leiden: Brill, 1957–69
JBL	<i>Journal of Biblical Literature</i>
JIES	<i>Journal of Indo-European Studies</i>
JNES	<i>Journal of Near Eastern Studies</i>
NABU U	<i>Notes Assyriologiques Brèves et Utiles</i>
NEB	<i>New English Bible</i>
OJA	<i>Oxford Journal of Archaeology</i>
OSB	<i>Oxford Study Bible</i>
PPS	<i>Proceedings of the Prehistoric Society</i>
RA	<i>Revue d'Assyriologie</i>
Rev. Bib.	<i>Revue Biblique</i>
ZA	<i>Zeitschrift für Assyriologie und verwandte Gebiete</i>

1

INTRODUCTION

This book will argue that the riding of horses in battle did not become historically significant until the eighth century BC. Although some scholars may regard that thesis as unlikely and indefensible, others will see it as a self-evident truth and may wonder why a book such as this one is necessary. Opinion is, in fact, sharply divided on the question of when military riding began, but those who hold the one opinion have not much conversed with those who hold the other.¹

Before the days of critical history many Europeans imagined that men had gone to war on horses since the beginning.² Late in the seventeenth century, when Luca Giordano painted the scene of Exodus 17, with Aaron holding up Moses' hands lest the Amelekites prevail over the Israelites, Giordano had no qualms about putting many of the combatants on horseback. Classical scholars, however, noting that Homer's heroes drove rather than rode their horses, suspected that in Greece, at least, driving may have preceded riding. As ancient Egyptian art was uncovered and publicized it was observed that in reliefs and paintings from the New Kingdom the chariot was a favorite subject, but men on horseback were very rare. The decipherment of the cuneiform and hieroglyphic scripts opened up texts from the second and third millennia BC and these early texts proved likewise to say nothing of cavalry. By the late nineteenth century students of ancient warfare had concluded that although in Greece and the Near East a few men had ridden horses in the Bronze Age, mounted warriors did not appear until the Iron Age.³

For well over a hundred years, therefore, military historians—now a tiny company in American and European academic circles—have been generally agreed that in those parts of the ancient world for which we have textual or pictorial records the riding of warhorses began some time after 1000 BC. In 1952 Tadeusz Sulimirski, writing in the *Revue Internationale d'Histoire Militaire*, presented an excellent summary of light cavalry actions in antiquity, and concluded that nowhere in the civilized world was cavalry of any sort in use before the ninth century BC.⁴ Yigael Yadin stated as matter-of-fact that when horses first appeared on Near Eastern battlefields they were draft horses, pulling chariots. Not until the first millennium BC, according to Yadin, did cavalry replace chariots.⁵ Contemporary military historians have found no reason to revise that conclusion. Arther Ferrill's *The Origins of War* identifies the Assyrians as the first military power to employ cavalry, and John Keegan's *A History of Warfare* places the beginning of effective military riding in the eighth century BC.⁶

For a time military historians were supported by the majority of an even smaller band of scholars whom, for want of a better label, I shall call "hippologists." These are men and women who may have little or no interest in military history but who in most cases have had considerable experience with horses and horsemanship and who in all cases have done specialized research on equestrian history. A forerunner of the hippologists was a military man, Col. George Denison, who had commanded the bodyguard of the

Governor-General of Canada. In 1874 Alexander II, Emperor of Russia, regretting the fact that despite the general advance of scholarship in the nineteenth century no history of cavalry had yet been written, provided for a competition to produce such a history. Col. Denison responded to the challenge and won the first prize of 5,000 rubles. His *A History of Cavalry*, published in 1877, looked especially at the cavalry actions of the eighteenth and nineteenth centuries. Although intended to provide practical instruction for cavalry commanders, by showing them what worked and what didn't, Denison's book briefly surveyed the role of horses in ancient warfare, drawing mostly on the Bible and on Greek and Roman writers. From the *Iliad* Denison learned that the use of the chariot was very ancient, chariots serving mostly as conveyances for warriors who fought on foot. Transported in a chariot, the warrior could step down onto the battlefield with fresh energy, while less fortunate men had trudged miles to the battlefield wearing heavy armor and carrying their shields and weapons. Cavalry, Denison concluded, made its appearance after the Trojan War, and indeed after the great battles of King David.

The horsemanship of the ancient world became a serious academic subject in Germany in the 1930s, with Gertrud Hermes' survey of the "tamed horse" in the prehistory of western Eurasia. Hermes brought to her task a remarkable clarity of thought and presentation, deployed both at the theoretical level and in dealing with specific artifacts.⁷ She did not directly address the question of when riding began, and—like other scholars of her generation assumed that people on the Eurasian steppe may have begun riding horses soon after domesticating them. She insisted, however, that the horse had no military importance until the invention of the spoke-wheeled chariot. Hermes' most important contribution was perhaps her critical evaluation of the belief, widespread in the 1930s, that in Europe bits and bridles were already in use in the neolithic period. Hermes argued that the very few artifacts on which the belief rested either were not certainly bridle-bits or were not certainly neolithic, and she concluded that the "tamed horse" was unknown in Europe before ca. 1500 BC, when it was brought in by conquerors who also brought with them the Indo-European language or languages that would evolve into Italic, Keltic and Germanic.

Two years after Hermes completed her pioneering work Joseph Wiesner published his *Fahren und Reiten in Alteuropa und im alten Orient*. Wiesner believed that Indo-European speakers were native to eastern or northern Europe, and that in the neolithic period they had there made use of the tamed horse as a draft animal, but only for peaceful purposes.⁸ As Wiesner saw it, the chariot was invented shortly before 1600 BC, and from that point onward horses were mainly employed in pulling war chariots. Drawing on textual, pictorial and linguistic evidence Wiesner argued that throughout the second millennium BC riding was of far less importance than driving in Europe, the Near East and India (on the steppe, he assumed, riders were prevalent all through the Bronze Age). A common lexicon for wheeled vehicles showed that the Indo-Europeans had been in the forefront of the chariotry revolution: "The Indo-Europeans, therefore, originally were drivers rather than riders, in contrast to the pastoral peoples of central Asia, who were riders and who were unfamiliar with wheeled vehicles."⁹ Although the priority of *Fahren* over *Reiten* in Europe and the Near East had long been assumed, it was Wiesner who first made a systematic case for the priority.

The third of the early hippologists was Hanns Potratz, who for his doctoral dissertation translated and commented on Kikkuli's manual for the training of chariot horses, a text

found at Hattusas. Potratz was uniquely qualified for the project, since he had a working knowledge of Hittite, was well informed about Near Eastern archaeology, and had wide experience with horses and their habits. Although he was able to explain much that had been obscure in Kikkuli's text, his grasp of ancient military history was not so sure. He supposed that Kikkuli's manual was meant to train chariot horses for racing, not for war,¹⁰ and throughout his career he continued to believe that chariot warfare was conducted according to rules of engagement that could have been written by the Marquis of Queensberry: that to kill or disable an opponent's horses was "unfair" and therefore was not done by honorable commanders. With such an understanding of chariot warfare, Potratz imagined that the chariot played a ritualized role on ancient battlefields from its introduction in the Bronze Age until the campaign of Alexander the Great, who was too boorish to abide by the rules.¹¹ Potratz did make the very good point, against Wiesner and Hermes, that in antiquity the horse was rarely used for pulling plows or heavy wagons: it could not have been of any consequence as a draft horse until the invention of the light chariot.¹² On the matter of riding, however, Potratz was reactionary. Hermes and Wiesner concluded that in temperate Europe (as in Greece and the Near East) riding was not yet significant in the second millennium BC, and they therefore restricted the "early riding" zone to the steppe lands. Potratz, contrarily, believed that ever since the horse had been domesticated riding was no less important in temperate Europe than in central Asia. The Bell Beaker Folk, he assumed, were already proficient as mounted archers.¹³ On the other side, Hermes and especially Wiesner supported what by the 1930s was the majority view that although some riding was done in the Bronze Age, it was not yet of any *military* importance, and that this was as true for Europe and the steppe as it was for the Near East (the appearance of the mounted warrior, Wiesner believed, was associated with the emergence of nomadism, early in the Iron Age).

This disagreement over the antiquity of military riding, and over the priority of driving over riding, has not yet been resolved. In 1956 the conclusions of Hermes and Wiesner were elaborated and strengthened in Franz Hančar's *Das Pferd in prähistorischer und früher historischer Zeit*. Hančar in fact went much further than had either Hermes or Wiesner, and concluded that nowhere—not even in central Asia—was riding of any military or economic importance before 1000 BC. Hančar was an avid horseman and his book remains the most exhaustive study of the horse in pre-classical times, especially in temperate Europe and the steppe. It has not, unfortunately, been of much consequence, being so long and so specialized as to be almost unreadable. It was reviewed in few journals, and only once, so far as I know, in English.¹⁴ More influential, paradoxically, was a short article in Russian that K.F. Smirnov published in 1961. Smirnov proposed that the organic bits that had been found at various sites from the upper Volga to central Europe were evidence that ca. 1500 BC riding was important in this broad area.¹⁵

In the last forty years hippology of a high order has been published in English. The pioneer here was J.K. Anderson, whose *Ancient Greek Horsemanship* combined a thorough knowledge of ancient sources (archaeological and literary) with Anderson's extensive experience as a rider. Anderson concluded that in the Greek world good riding began quite late: the seventh century BC. One of the reviewers of Anderson's book was Mary Aiken Littauer, who has become "la grande dame d'hippologie."¹⁶ Her collaboration with archaeologist Joost Crouwel produced books and articles illuminating a wide assortment of technical subjects related to the riding and driving of horses in

antiquity.¹⁷ In 1979 Littauer and Crouwel published what remains the definitive book on ridden animals in the ancient Near East, and they concluded that in that region—including Egypt and Anatolia—cavalry first appeared between the beginning of the ninth and the middle of the eighth century BC.¹⁸ What Anderson, Littauer and Crouwel concluded about the Aegean and the Near East, however, was not extrapolated to the Eurasian steppe, and it was supposed that on the steppe a tradition of good riding had begun in the neolithic period.¹⁹

Recently a growing number of hippologists have agreed with linguists, anthropologists and a few archaeologists who have advocated a very early date not only for good riding but also for armed riding. These scholars believe that in the steppe country north of the Black Sea, the Caucasus and the Caspian (henceforth the Pontic-Caspian steppe) men on horseback were using weapons in warfare already in the fourth millennium BC and possibly in the fifth, thousands of years before the rise of the nomadic societies in the early Iron Age. This idea had begun to germinate late in the nineteenth century, in what was then the flourishing discipline of Indo-European philology. Many Indo-Europeanists found reason to think that the domestic horse was unusually important to the people who spoke the Proto-Indo-European language. A scholar who dated the PIE speakers *ca.* 2000 BC was able to imagine them as charioteers, because it was supposed that by 2000 BC chariots were in use. But if one's notional date for Proto-Indo-European was well back in the third millennium BC (to say nothing of the fourth or fifth), one could hardly conceive of the PIE speakers as charioteers. They must, in that case, have been riders rather than drivers of horses. By the 1920s and 1930s several prominent linguists and prehistorians, V.Gordon Childe among them, espoused a vague belief that it was thanks to their ability as riders that the PIE speakers were able to conquer vast territories in Europe and Asia and then to disseminate their language. No direct evidence for riding of any kind in the fourth or third millennium had been found, however, and so the belief was seldom made very explicit and was nowhere developed at length.²⁰

That the PIE speakers were riders remained little more than unobtrusive speculation until the 1960s, when it found a vigorous advocate in Marija Gimbutas. For thirty years Gimbutas argued, in a stream of publications, that the Indo-European languages were brought to Europe by rider-warriors from the steppe. This happened, she believed, in a series of "invasions" that began in the fifth millennium BC and ended in the third. The hallmark of these warriors was the *kurgan*, a burial mound heaped over the body of an esteemed chief or warlord.²¹ Undeterred by her critics, chief of whom has perhaps been Alexander Häusler,²² Gimbutas continued until her death in 1994 to promote what she called her "Kurgan theory," revising it from time to time but not changing its essentials.

What brought the thesis of early rider-warriors to the fore, both for Gimbutas and for other scholars, were excavations that Dmitriy Telegin directed at Dereivka from 1960 to 1967.²³ Dereivka is a neolithic and chalcolithic site on the right bank of the lower Dnieper, and here Telegin found a sizeable quantity of horse bones. With the assistance of V.I.Bibikova, a specialist in palaeozoology, Telegin concluded that the Copper Age inhabitants of the site not only rode horses routinely but even invested the horse with some cultic significance. At the height of the Cold War the findings of Soviet archaeologists were often ignored in western academic circles. Gimbutas, however, saw in the horses of Dereivka a clue to the dispersal of the Indo-European languages over Eurasia. In 1986 James Mallory made the full record at Dereivka accessible for western

scholars, arranging for the translation of Telegin's report into English and for its publication as a volume of the *British Archaeological Reports*.²⁴

Telegin supposed, although he said very little about it, that the horse may have been used in warfare at Copper Age Dereivka. That suggestion was welcomed by Gimbutas, and also received some vague support from Sandor Bökönyi,²⁵ whoever thirty years was one of the most eminent hippologists in Europe. In 1985 Augusto Azzaroli's *An Early History of Horsemanship* noted what had been found at Copper Age Dereivka and suggested that the evidence "shows that at such an early date the horse had risen to a higher status than a simple working animal. Presumably it was used in hunting, maybe also in battle." The first horse-troop in warfare, according to Azzaroli, "was, as it seems, a mounted cavalry."²⁶

Most influential in interpreting the hippological significance of Dereivka and publicizing it was an article that David Anthony published in *Current Anthropology* in 1986.²⁷ The article was accompanied by seven critical responses from well-known authorities (one of whom was Gimbutas) in the fields of anthropology and prehistory. Anthony's thesis went much further than anything that Telegin had proposed, marrying the osteological evidence from Dereivka to a model of horse domestication derived from the experience of the Plains Indians in North America. The life of the Plains Indians—including their warfare—was transformed by the horse, which Spanish explorers and *conquistadores* had brought to North America in the sixteenth century. This North American model helped Anthony to reconstruct radical social and economic changes that may have occurred on the Pontic-Caspian steppe five or six thousand years earlier.

In the wake of Anthony's article other anthropologists and archaeologists have become convinced that horse-riding—and, indeed, mounted combat—began *ca.* 4000 BC.²⁸ Jared Diamond has brought the new view to the attention of many readers,²⁹ and it has been elaborated most fully in R.L.O' Connell's *Ride of the Second Horseman: The Birth and Death of War*. According to O'Connell, the terror that warriors from the steppe posed for settled communities, a terror which in historical times we associate with the Huns in the fourth and fifth centuries or with the horde of Genghis Khan in the thirteenth, began as early as 4000 BC, when men first learned to ride. In the third millennium BC it got much worse, as the steppe nomads learned to shoot their composite bows while riding, and so became

a protean force threatening for at least four millennia to descend without warning upon the hubs of agricultural life to exact a price in blood, and ensuring in the process that war throughout the Eurasian sphere continued to be a matter of whole populations and not just rulers and their minions.³⁰

So far as I am aware, anthropologists and other scholars who believe that men fought from horseback already in the fifth or fourth millennium BC have not systematically addressed the arguments of military historians and of earlier hippologists that horses were not ridden in battle until the first millennium BC. On the opposite side, a number of scholars—among them Nikolai Bokovenko, Alexander Häusler, Elena Kuzmina, Marsha Levine, and Colin Renfrew—have made good arguments against the new view, but have done so in specialist publications not certain to be noticed by either military historians or general students of the ancient world.³¹ For a time the two views were small ships passing

in the night, heading in opposite directions and largely unaware of each other's existence. In recent years, however, the belief in early rider-warriors has become more conspicuous, and it is therefore time to examine in detail the two very divergent answers to the question, When did mounted warriors become militarily significant? The chapters that follow will look closely at the evidence on which the two views are based, but before taking up those controversial particulars it may be helpful to look briefly at some more general facts and theories about horses in antiquity.³²

Equus caballus is the Latin name that in the eighteenth century Carolus Linnaeus gave to the domestic horse, the only kind of horse known in his day. When wild horse populations were discovered in the nineteenth century the name seemed inappropriate for them (*caballus* was for the ancient Romans a slightly derogatory word denoting a working horse), and naturalists therefore coined the term *Equus ferus* for the wild horse. For our purposes, however, the separate designation is misleading because it suggests that we are dealing with two separate species. The domestic horse belongs to the same species as the wild horses of yesterday, and for as long as they survived wild stallions interbred with domestic mares and produced fertile progeny. In this book *Equus caballus* will therefore be used for all horses, whether wild or domestic. Truly separate species, whose interbreeding produces only sterile offspring, include the African ass (*Equus asinus*, the species to which all domestic asses belong), the Asiatic wild ass (*Equus hemionus*), and the zebra (*Equus zebra*).

For most of the paleolithic period the wild horse roamed over much of North America, and over the Eurasian continent from Spain to the deserts of western China and from the Baltic south through Anatolia and parts of Iran. But toward the end of the paleolithic period, at about the time that *Homo sapiens* proliferated across the globe, large mammals became endangered. Some, like the saber-toothed cats and woolly mammoths, disappeared entirely. The extent to which humans were responsible for the extinction of these species is uncertain. It is hard to imagine that human hunters with primitive weapons would have or could have exterminated entire populations of wild animals, and some paleontologists therefore believe that climate changes were a more important factor in the disappearance of so many mammals. For whatever reason, the wild horse became extinct in the Americas, and in Eurasia its numbers fell drastically. Throughout western Europe, where they were still conspicuous when the Lascaux caves were painted, wild horses were a vanishing species by 10,000 BC.

The one place on earth where the wild horse survived was the great band of steppe country that stretches from eastern Asia to the Danube and to the Carpathian mountains.³³ This vast area is still *terra incognita* for most western scholars, certainly including the present author, but the end of the Cold War has much improved communication between archaeologists in the former Soviet Union and their western counterparts. It is likely that over the coming decades much of what Western historians and prehistorians regarded as "established fact" will be significantly revised. And we can expect that horse domestication will be among the topics most illuminated by new information coming from Asia.

On the Eurasian steppe, and especially in the more arid, treeless zone of the steppe, horses were in their element. Thanks to its large eyes, set at a diagonal on the front corners of the skull, the horse has a visual field of more than 300 degrees, and in the flat and open steppe was able to see a predator approaching from almost any direction.³⁴ The

dryness of the steppe, much of which receives less than ten inches of rain annually, was in fact an advantage for the horses. Because of their ability to go for relatively long periods without water (even in summer horses on the steppe could manage with one drink a day),³⁵ and to cover long distances quickly, horses were less dependent on nearby water sources than were cattle, pigs, sheep, or other relatively slow animals. Horses could come to a river to drink, and then quickly return into the steppe, where predators were few. In Kazakhstan, Bactria and Mongolia horses were second only to camels in their ability to survive. Perhaps most important for the proliferation of horses on the steppe was the widespread absence of humans. People found the steppe, except for its river valleys, difficult terrain in which to hunt, and too dry and too intractable for agriculture. As a result, until men learned to ride domesticated horses well enough to hunt on horseback, the wild horses of the steppe had little to fear from human hunters.

Since true wild horses are now extinct, generalizations about their behavior must be based on what is known about feral horses (horses that have “gone wild”) such as the mustang in the American west, and on nineteenth-century accounts of the last two populations of truly wild horses in Asia, known respectively as the tarpan and Przewalski’s horse.³⁶ For at least the colder months of the year wild horses seem to have lived in loose or diffused herds, and a herd of—let us say—three hundred wild horses would have comprised two dozen or so tightly bound family groups, each consisting of a stallion, his mares, and their foals. A stallion, thanks to his small but sharp canine teeth (these four teeth, immediately behind the incisors, begin to erupt when the male horse is between three and five years old), has “weapons” that the mares and foals do not have, and so in the wild was able to both protect and control his family. A family group rarely numbered fewer than five or more than fifteen horses. In addition to the family groups a herd of horses regularly included “bachelor” groups, each made up of several young males who had been evicted by their sires from the family groups into which they were born (when a young male reached his fighting age, at four or five, he began trying to take over a family group from an older stallion). All horses are superbly equipped for flight, and with their keen senses of sight, hearing, and smell they are quick to alert each other to danger. If the danger was a lone wolf or a very few predators, the stallions would protect their mares and foals. If the danger was too great to confront, the group or even the entire herd would run, and on the flat grassland of the steppe the horses could outrun and outlast a wolfpack. A young foal or an adult horse too old or lame to run might be overtaken and killed, but the rest of the herd escaped and prospered. Hundreds of thousands—and possibly millions—of wild horses continued to roam the steppes long after the horse had all but disappeared in Europe and in the Near East.

By the standards of modern draft and saddle horses *Equus caballus* in mesolithic Asia, ten thousand years ago, would be classified as a pony. In the Upper Paleolithic period horses may have been somewhat larger,³⁷ but by the sixth millennium BC most of them were relatively small. Only with domestication and selective breeding did horses reach the sizes with which we are familiar. When horses were first domesticated the average adult was slightly over 13 hands (130 cm) high at the withers,³⁸ compared to the 14–15 hands of most saddle horses today, or to the 15–17 hands of thoroughbreds. The warhorses of antiquity were spirited and impressive, as the poet who wrote Job 39:19–25 well knew, but they were not nearly so intimidating as the mounts on which New York City police make their rounds in Central Park.

2

HORSEMEAT

In English-speaking countries the butchering of horses for their meat is regarded as a deplorable practice, falling somewhere between a moral failure and a crime. The subject of horsemeat consumption has therefore not been one over which Anglophone hippologists tend to linger. The books by Charles Trench, Augusto Azzaroli, and Juliette Clutton-Brock, otherwise informative, quickly concede that long ago people ate horses, and then hurry on to the more congenial subjects of driving and riding. Nor have hippologists writing in languages other than English made up for this deficiency. The pioneers—Hermes, Wiesner, and Potratz—said almost nothing about the horse as a food source. Hančar emphasized the evidence for consumption of horsemeat on the steppe, but Hančar's book has seldom been read. Not surprisingly, many students of antiquity are unaware of the fact that for almost all of our species' prehistory we valued the horse only for its meat.¹

Our reluctance to treat the horse as a food animal is certainly buttressed by ancient authority. When Pope Gregory III forbade the eating of horsemeat in 732, he formalized a taboo that had long been familiar in the Mediterranean world and the Near East. The classical Greeks and Romans had seldom eaten horsemeat, nor had their eastern neighbors been inclined to do so. The ancient Israelites were absolutely enjoined from eating the meat of any animal that did not both chew its cud and have a cloven hoof, and the horse failed on both counts. Egyptian and Mesopotamian records do not indicate that in these lands horsemeat was served either to people or to gods.

In temperate Eurasia, on the other hand, horsemeat was highly regarded and these tastes can be traced back a very long way. During the last great Ice Age horsemeat was a staple in the diet of *Homo sapiens*. This was learned already in the nineteenth century, when paleontologists discovered the residue of animal bones at Solutr  and in other caves frequented by paleolithic communities. Over the last century the material record has been filled out in some detail, and it has now become clear how widespread and how long-lasting was this dependence on horsemeat. Even in Spain and Britain the horse was apparently still a significant game animal as late as 10,000 BC.² As noted in the preceding chapter, it is possible that the disappearance of the wild horse from the Americas and from western Europe was the result of human predation.

The neolithic period commenced when people in the Near East began to raise animals for food. Sheep, goats, pigs, and cattle were domesticated very early. By 7000 BC they were being bred by villagers in the foothills of the Zagros mountains, over much of Anatolia and the Levant, and at a few places in Crete and Greece. By 5000 BC domestic animals were the primary source of meat for people living as far west as Italy and the Rhine, and by the end of the fifth millennium a neolithic economy had reached Ireland. In the far north of Eurasia the reindeer was eventually a common domesticate.

In Europe,³ the late mesolithic and early neolithic periods saw a lull in horsemeat consumption. The once-plentiful wild horses were gone by the sixth millennium BC, and domestic horses did not appear in significant numbers until late in the fourth. West of the Rhine, during this interval, there is no sign of horses at all. In eastern, central and northern Europe excavations of sites dating from the sixth, fifth and early fourth millennia have from time to time produced horse bones, but in exiguous amounts. Of all the bones thus far recovered at early neolithic sites in central Europe less than one third of 1 percent came from horses, whether domestic or—more likely—wild.⁴ Even in the later neolithic settlements of the eastern Hungarian plain, a region exceptionally well suited for horses, only one out of every two thousand bones seems to have come from a horse (in its visibility in early fourth-millennium Hungary, therefore, the horse ranked above the beaver but below the pond tortoise).⁵ Possibly what little horsemeat was eaten came from domestic horses, but it is much more likely that it came from some of the last wild horses to be caught and killed in the Tisza river plain. And one must conclude that not only in western Europe but even in central and eastern Europe the horse was near extinction by the beginning of the fourth millennium BC. Toward the end of the fourth millennium, as we shall see, Europeans again began eating horsemeat, this time perhaps from domestic animals.

In the Pontic-Caspian steppe the ecology was quite different from that of Europe. During the paleolithic and mesolithic periods the people who lived along the valleys of the Dniester, Dnieper, Don, and the smaller rivers that flow to the Black Sea had of course gathered their food. For protein they caught the freshwater fish that were plentiful in these rivers and hunted the animals that came to the banks to drink. By the fifth millennium BC these traditional sources of food had been supplemented by agriculture and stock-raising. Initially, villagers here had the usual four domesticates, but at some point the cattle, sheep, goats and pigs were joined by horses. The villagers' purpose in domesticating horses was, very simply, to eat them, and possibly to milk the mares. Although it is obvious that in the steppe the horse remained a very important food animal long after the paleolithic and mesolithic periods ended, it is not yet clear at what point horsemeat began to come from domestic rather than wild horses. Until the 1960s most archaeologists and prehistorians believed that horses were not domesticated until far into the third millennium BC.⁶ As a result both of new evidence and of the calibration of carbon dates for old evidence, that chronology has been raised considerably: today it seems that domestic horses may have been supplying much of the horsemeat in the steppe-dwellers' diet well before 3000 BC, since by that time horse-keeping seems already to have spread from the steppe into adjacent areas.

Late in the fourth millennium, that is, significant numbers of horse bones began to be discarded in hearths, refuse pits, and garbage dumps in settlements where previously horses had not been in evidence. In Turkey's Altinova plain, on both sides of the upper Euphrates, horses make what seems to be a sudden appearance late in the fourth millennium.⁷ Further to the east, in the Kura-Araxes valleys, horse bones show up somewhat later, in Early Bronze levels, but at many sites.⁸ South of the Tauros and the Balkan mountains tastes differed, and the horse never became a significant food animal in the Fertile Crescent, Egypt and Greece. But in eastern Europe north of Greece, and particularly in the Carpathian basin, villagers seem to have begun eating horsemeat shortly before 3000 BC, after millennia in which horse bones had been conspicuously

absent from their kitchen middens.⁹ A few centuries later horse bones began to be dumped in significant quantities in Hungary, accounting for almost 20 percent of the ungulate bones found there in third-millennium levels. More generally, throughout eastern and central Europe the percentage of horse bones at third-millennium sites is several times greater than the percentage had been in the fourth millennium.¹⁰ An extraordinary Hungarian site is Csepel-Háros, a Bell Beaker settlement on an island in the Danube, where horse bones account for about half of all the bones found. Because wild horses seem to have been extinct on the island (and probably so in most of central Europe) by the fifth millennium BC, it is likely that the horses eaten at this third-millennium settlement were domestic.¹¹ Although nowhere else in central Europe is there a site like Csepel-Háros, a significant presence of horses—apparently domesticated—is documented for Slovakia, the Czech Republic, Austria, and southern and central Germany. The appearance of the horse as a food-animal in all of these locations in Europe and also in Anatolia, outside the area in which wild horses were still common, is a valid argument that by 3000 BC the breeding of domestic horses was widespread. We do not know, but may nevertheless suppose that on the Pontic-Caspian steppe domestication had occurred considerably earlier.

Some specialists would raise the date of horse domestication as high as 4000 BC, on the basis of Telegin's excavations at Dereivka, on the lower Dnieper (see map at Figure 2.1). Telegin saw the settlement as part of the Srednij Stog culture, a name for early settlements all along the lower Dnieper valley and at a few locations in river valleys further east. Telegin's conclusion was that Dereivka was occupied for a few centuries on either side of 4000 BC.¹² Excavators of other early settlements along the Dnieper or adjacent rivers had found significant numbers of horse bones (usually between 3 percent



Figure 2.1 Map of Pontic-Caspian steppe; drawn by Sherrye Young, after Mallory 1989, fig. 112; courtesy James Mallory.

and 15 percent of all the ungulate bones at a site, but occasionally more than 30 percent), and they had generally supposed that these bones came from horses slain by hunters. At Dereivka Telegin not only found that *Equus caballus* was far and away the most important food animal, but also concluded that these horses were domestic. Dereivka was probably a tiny community. The excavations unearthed a habitation site and two burial grounds, one with neolithic graves and the other—several hundred yards away—with burials dating to the Copper Age. The habitation site was more informative than the graves. Although it included only three “houses,” Telegin found six hearths, each containing hundreds of animal bones. These bones were of course the residue of the many cuts of meat that the chalcolithic Dereivkans had roasted in their hearths. Of all the bones, approximately 75 percent came from horses, and represent at least fifty-two individual horses.¹³

It is obvious that when the Copper Age inhabitants of Dereivka ate meat rather than fish, they usually ate horsemeat. But that datum was not what brought the site so much attention from archaeologists, anthropologists and Indo-Europeanists. Dereivka looms large in scholarship on horses because of the possibility that the horses of Dereivka were not only domestic but were routinely ridden. The site produced what Telegin identified as cheekpieces for bridles, and also a burial that for a time seemed to many—including the present author¹⁴—to show that already in the Copper Age men were riding horses and were including them in important rituals.

After analyzing the skeletal evidence in the 1960s Bibikova concluded that the horses eaten by the inhabitants of chalcolithic Dereivka were domestic. Her principal argument that the horses were not wild was based on the slaughter pattern that she found at Dereivka: she was able to determine the sex of seventeen horse skulls or mandibles found at the site, and of these no fewer than fifteen came from stallions. So pronounced a pattern convinced Bibikova, and then Telegin and Gimbutas, that the slaughtered horses must have been domestic.¹⁵ The absence of old horses, the most likely to fall behind when a herd of horses was in flight from hunters, also suggested to Bibikova that the Copper Age Dereivkans had butchered domestic animals.¹⁶ This conclusion was shared, elaborated and given wide circulation by David Anthony.¹⁷

A few specialists—notably Marsha Levine and Alexander Häusler—do not agree that the horses eaten at Dereivka were domestic. In 1990 Levine argued, again on the basis of the slaughter pattern, that the horses eaten at the site must have been wild, and that the stallions had been killed by hunters who stalked the stallions’ family groups.¹⁸ The Dereivkans, in other words, were not horse-keepers but horse-hunters, just as paleolithic and mesolithic steppe-dwellers had been. Levine’s argument has recently received some support from Norbert Benecke, who compared the Dereivka horses to those found at mesolithic Mirnoe, three hundred miles southwest of Dereivka. The Mirnoe horses were quite certainly wild. Although the sex-ratio of the horses eaten at Mirnoe was not determined, in age they closely resembled the horses eaten at Dereivka: most of the Mirnoe horses were between six and nine years old.¹⁹ The Mirnoe analogy strengthens the argument that the horses eaten by the Copper Age inhabitants of Dereivka were slain by hunters rather than culled from a domestic herd. One can imagine that Dereivkan hunters who stalked a family group of wild horses were challenged by the stallion to whom the group belonged. Armed with spears, bows or javelins, the hunters would have killed the stallion, and that may be the reason why so many of the horses eaten at

Dereivka were stallions in their prime. On the other hand, because domesticated horses were apparently kept over a fairly extensive part of Eurasia by the end of the fourth millennium BC, it is not impossible that their domestication had begun on the lower Dnieper as early as 4000 BC. Perhaps more excavations will eventually settle this question.

On the question of riding, however, we must be more categorical. Two discoveries at Dereivka seemed to show that the Dereivkans not only kept domesticated horses but rode them. Because the earliest textual and pictorial evidence for the riding of horses comes from the Near East and dates from late in the third millennium, the possibility that the steppe dwellers had been riding already *ca.* 4000 BC was understandably very exciting. One of the two discoveries at Dereivka was made on the eastern edge of the settlement. Close to one of the three “houses” Telegin unearthed a burial of a horse’s head and forelegs, along with a few artifacts (including a figurine of a wild boar) and the skeletons of two dogs. This burial was in fact the most publicized discovery made during all nine seasons of excavation, because it conformed very well to a ritual practice well attested in the region during the Bronze and Iron Ages, and performed even in Keltic Europe: after butchering a horse and feasting on the meat the steppe-dwellers and Europeans in those later periods would ceremoniously bury the horse’s head and hoofs, and would add to the deposit various other cultic offerings, often including a dog or two. Before 1964 the earliest known “head and hoofs” burial dated a little before 2000 BC,²⁰ and the discovery of such a burial at Copper Age Dereivka was therefore a great surprise, pushing this long-lived ritual back another two thousand years. The Dereivka burial was described in detail by both Bibikova and Telegin, and invariably appeared in subsequent discussions about the antiquity of “horse-riding cultures.”²¹ The horse was a stallion, seven or eight years old, and associated with the bones were two antler-tine objects, at least one of which Telegin interpreted as a cheekpiece. The grave thus seemed to be clear evidence that already in the Copper Age people near the Dnieper not only were riding horses, but were sacrificing them in rituals that were to endure for thousands of years. That the stallion in question had been ridden was in 1990 put beyond any doubt by David Anthony and Dorcas Brown, who found clear signs of bit-wear on the stallion’s premolars. The inescapable conclusion was that by *ca.* 4000 BC horse-riding was already central to the steppe-dwellers’ way of life, predating the Near Eastern evidence by almost two thousand years.²²

That reconstruction collapsed in 1997, when Telegin and Anthony submitted for carbon dating at Oxford University a fragment of bone and one of the premolars from the buried stallion. While the excavations were in progress organic material from various points in the settlement site had been carbon dated, and the resultant dates ranged between 5270 and 3530 BC. But no carbon test had been run on any of the bones from the “head and hoofs” burial. When that was eventually done, Telegin and Anthony were disappointed to find that, in Anthony’s words, “the tooth was about 3500–4000 years younger than expected,” and that “the Dereivka horse died between about 700 and 200 BC.”²³ The burial was evidently the work of “Skythians,” an Iron Age pit having been dug into Copper Age levels.

A second discovery at Dereivka that seemed to demonstrate the riding of horses in chalcolithic times was a scatter of six perforated antler-tines (see Figure 2.2), which Telegin identified as cheekpieces from bridles. In the second millennium BC antler-tine

tips certainly functioned as cheekpieces, and in fact were status symbols for men who owned horses. Well over a hundred of these cheekpieces, called *Stangenknebel* in German scholarship, have been found: a few in Anatolia, more on the steppe, and many more in central Europe (see Figure 2.3).²⁴ Each had one fairly large perforation, through which the mouthpiece was inserted, and usually several smaller perforations through which straps or reins could be attached. A good many of these second-millennium *Stangenknebel* were decorated with elaborate incisions.²⁵ Although the antler tips he found at Dereivka bore no decoration and had only a single perforation Telegin concluded that these too were cheekpieces, preceding by more than two thousand years the specimens known from the second millennium BC.²⁶

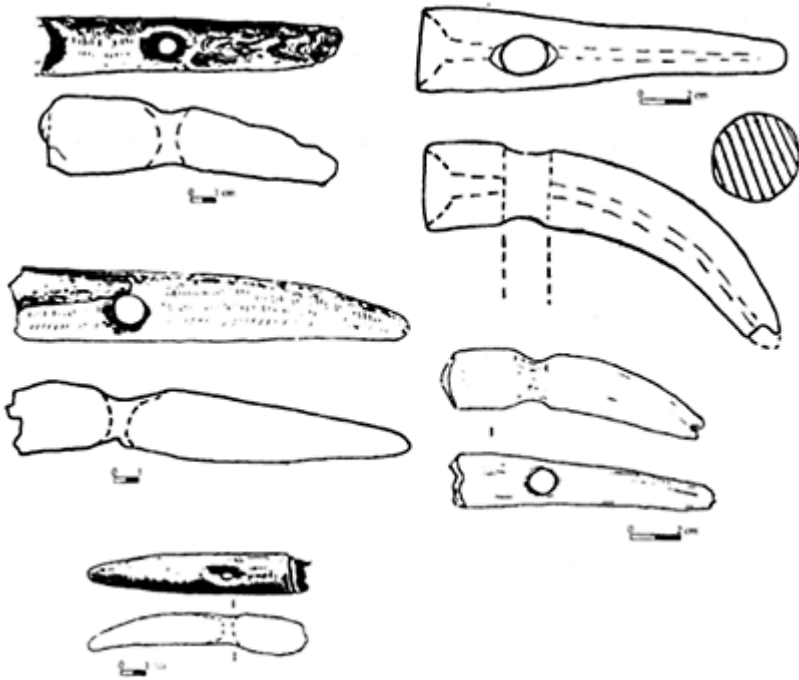


Figure 2.2 Antler-tine “cheekpieces” from Dereivka, ca. 4000 BC; After Rassamakin 1999, fig. 3.55; courtesy Mcdonald Institute for Archaeological Research, Cambridge.

That the Dereivka artifacts were indeed cheekpieces is unlikely. The six are a small fraction of approximately two hundred wrought pieces of red deer antler found in the excavation. Evidently the Dereivkans frequently hunted deer (more deer than cattle were consumed at Dereivka) and after eating the venison they utilized all parts of the antlers: bases, stems, branches, and tines. Because nature provides few things that are both

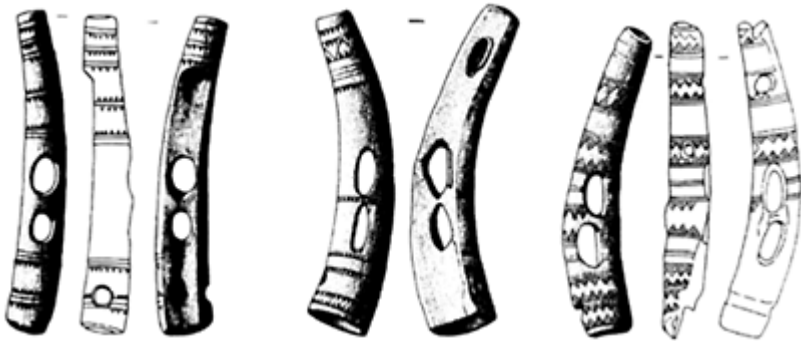


Figure 2.3 Incised Stangenknebel from Hungarian plain, second millennium BC; drawings by Brigitte Gies and Manfred Ritter in Hüttel 1981, Tafel 6, nos. 52, 53 and 54; courtesy Hermann Müller-Karpe and the C.H.Beck Verlag, Munich.

sharper and less breakable than the tines of a stag's antlers, *Homo sapiens* all along found the tines remarkably useful for boring holes through leather and wood, or for other tasks requiring an awl or some other sharply tapered tool. Perforated antler tines, often with a single perforation for receiving a rotator, have therefore been found at paleolithic and mesolithic sites over much of western Eurasia and North Africa.²⁷ As a glance at Telegin's text and figures will show, the Copper Age Dereivkans bored holes through a great many antler segments, most of which could not possibly have been cheekpieces (see Figure 4).²⁸ Through some of these holes the Dereivkans threaded cords or straps, and through others they inserted wooden shafts, and so provided themselves with an array of tools: awls, picks, borers, adzes, and even hammers and mattocks. Because the Dereivkans used antler pieces in so many ways, it is obviously not at all clear how the six pieces under discussion were used. Ute Luise Dietz, who has now catalogued all of the PonticCaspian bits from the tenth through the seventh centuries, argued that—in addition to the fact that each has only a single perforation—the asymmetry of the six artifacts does not seem appropriate for use as a cheekpiece.²⁹

Telegin described the contexts in which five of the supposed cheekpieces were found. Two were discovered near the stallion burial,³⁰ a context which initially argued powerfully in favor of identifying them as Copper Age cheekpieces. Now, however, since the stallion has been dated to the middle of the first millennium BC, we must suppose either that it had nothing to do with the antler-tine objects, or that the antler-tine objects were indeed cheekpieces but date to the Skythian period (that alternative is the less likely, since by the Skythian period horses on the steppe were regularly controlled by metal cheekpieces). The other contexts described by Telegin suggest tool assemblages. One "cheekpiece" was found together with "a bone adze, scrapers, knife-like blades, variously sized bone awls, and a piercer with a flat tip."³¹ Another spot yielded "flint tools (knives,

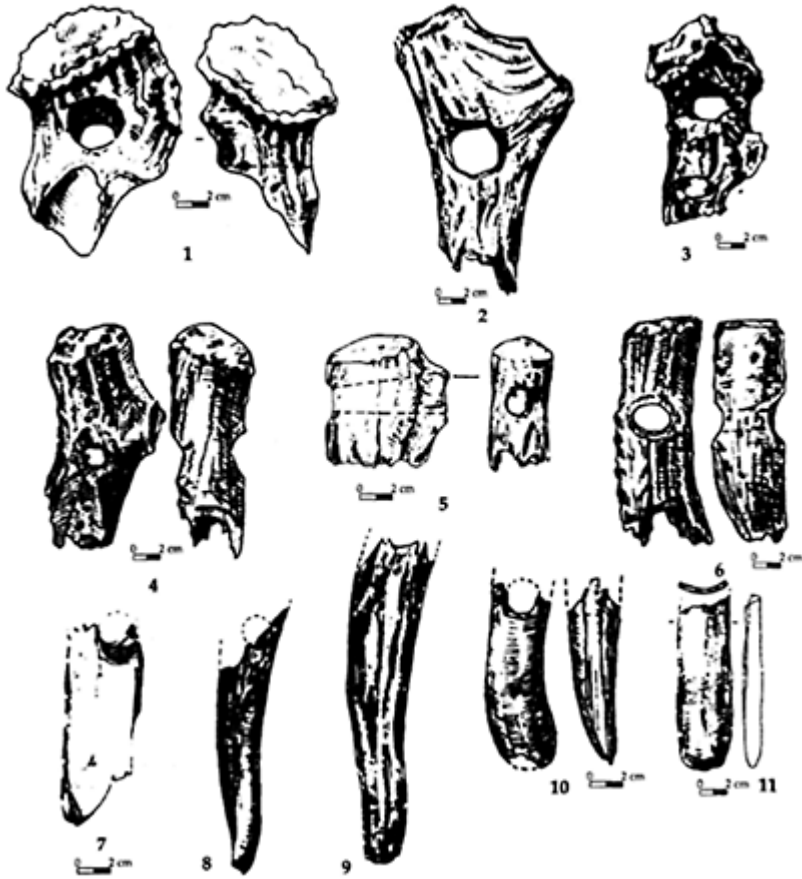


Figure 2.4 Antler adzes from Dereivka, ca. 4000 BC; after Rassamakin 1999, fig. 3.54; courtesy McDonald Institute for Archaeological Research, Cambridge.

scrapers), bone piercers, antler mattocks or hammers, a two-hole bridle cheekpiece and other objects.”³² Still another produced “three mattocks or hammers, a bridle cheekpiece, four bone adzes.”³³ That the six objects may have been tools of some kind is also suggested by the fact that bone artifacts similar to the perforated antler tines were used in places—from China to Switzerland—at which there is no osteological evidence for horses. Finally, it is relevant that perforated antler tips (unaccompanied by horses) have been found in graves. A single tine in a grave is especially worrisome, since a single cheekpiece would have been as useless as a single chopstick. It has been suggested, therefore, that in the neolithic and chalcolithic periods perforated bone and antler tips were used as cord-handles, with the cord looped through the perforation and then knotted.

Another suggestion is that the antler tips served as needles for the weaving of fishnets.³⁴ Throughout the Srednij Stog zone, of course, fish were very important in the villagers' diet.

If one insists that the six perforated tines at Dereivka were cheekpieces, one will need to explain why the bit, bridle and horseback riding were not widely adopted by the Dereivkans' contemporaries, and indeed why what should have been a momentous discovery for humankind had no consequences whatever. The invention of the bit and bridle, one would have thought, should have been almost as significant as the invention of wheeled vehicles (as we shall see, the latter invention—*ca.* 3500 BC—had immediate and important results, and these of course have been permanent). When bits and bridles first appeared in the Near East, early in the second millennium BC, they quickly replaced the nose-rings by which equids had previously been controlled, and they have ever since remained a part of humanity's material culture. Nikolai Bokovenko has recently concluded that in the central Asian steppe, from the Urals to Mongolia, bits and cheekpieces were first used in the middle centuries of the second millennium, that until the seventh century BC there was considerable experimentation with various kinds of bridle elements for riding horses, and that after 600 BC the "Pazyryk Style" became a favorite from the Hungarian plain to Mongolia.³⁵ In the next chapter we shall see that on the basis of carbon dates that Anthony has obtained from a site east of the Urals the *terminus post quem non* for the first use of the bit on the steppe should probably be pushed back toward the beginning of the second millennium BC. From that date to modern times bits have been in continuous use on the Eurasian steppe. That bits and bridles had in fact been invented on the steppe two thousand years before the early second millennium BC, but had somehow been forgotten or—stranger still—had been put aside in favor of nose-rings or nosebands, is difficult to imagine.³⁶ Although progress has not been uniform and continuous in human history, a regress so perverse would have few parallels, and could hardly have occurred unless as the result of some major catastrophe. In other words, if we identify the perforated tines from Dereivka as cheekpieces we make the prehistory of the Eurasian steppe more baffling than it needs to be. We shall return to this problem in Chapter 4, but let us tentatively suppose that perforated antler tines may originally have been awls, cord-handles or needles of some sort or other, and that during the second millennium BC it occurred to someone to use a pair of antler tines for a very new purpose: as cheekpieces to hold a bit.

One other archaeological argument, although not from Dereivka, has been proposed to show that the steppe peoples of the fourth and third millennia were riders. Undeterred by the disappointment of the Dereivka stallion burial, Anthony and Brown have turned to Botai, in northern Kazakhstan, and have examined the teeth still in place on skulls and mandibles of horses killed there during the period 3500–3000 BC. Looking for pronounced beveling on the second premolar (the P₂ in equine dentistry), Anthony and Brown found that approximately a fourth of the P₂s at Botai exhibit beveling. And the beveling, argue the authors, is best explained as the result of wear from organic bits that riders used to control these horses.³⁷ Levine does not find the argument persuasive, and suggests that the beveling could just as well be the result of "abnormal occlusion."³⁸ Even if the Botai premolars were worn down by bits, the conclusion that these horses were ridden would be premature: they may have supplied a "secondary product" by serving as pack animals or even draft animals, pulling sledges or primitive wheeled vehicles.³⁹ In

any case, the one thing certain about the horses with beveled P₂s at Botai is that these horses were butchered and eaten.

The claims that have been made for early riding depend not on the material evidence itself, which is ambiguous at best, but on the interpretation of the material evidence, and on the model of horseback riding by North American natives soon after the horse was brought to the western hemisphere in the sixteenth century. The model is problematic, in part because the first domesticated horses of the neolithic steppe were barely separated from their wild past, whereas the North American horses—whether domesticated or feral their relationship with horses is concerned, the Plains Indians differed from came from a stock that had been ridden for two thousand years. So far as the neolithic inhabitants of the Pontic-Caspian steppe in two very important ways: the Plains Indians had learned from the Spanish *conquistadores* that horses are meant to be ridden, and except in dire emergency the Plains Indians did not eat their horses. The readiness with which the Native Americans took to riding is therefore a questionable model for what may or may not have happened in neolithic Eurasia. The earliest direct and unambiguous evidence for riding—figurines and pictures of men on horseback—comes from the Near East and from the late third millennium BC, and we shall look closely at it in Chapter 3. Here we must be satisfied with a negative conclusion: the material record has not shown that people on the Eurasian steppe were riding horses in the fifth, fourth and third millennia.

In making their argument that the Copper Age Dereivkans were horse riders Telegin and Anthony relied not only on physical evidence but also upon an important assumption that now seems to have been generally accepted: the keeping of horses as food animals could not have succeeded unless the keepers were on horseback. Against the consensus that riding did not begin until shortly before 2000 BC Telegin and Anthony reasoned that the “horsekeepers” of Copper Age Dereivka must have been able to ride, and in fact to ride fairly well. That is, whereas sheep, goats, pigs and cattle could have been managed easily enough by farmers on foot, horses would have presented more of a problem, and only by riding one of his domesticated horses would a herdsman have been able to keep up with the others.⁴⁰ That horse-herding requires mounted herdsman can hardly be doubted. Marsha Levine’s report on this topic is amusing: “When, in the course of my ethnoarchaeological research, I have asked Kazakh or Mongol herdsman if it is possible to herd horses on foot, their response has been incredulity. In order to maintain my credibility, it has always been necessary for me to maintain that I myself could never believe that such a thing is possible, although others do.”⁴¹

Telegin’s and Anthony’s assumption that the first domesticators of horses were herders of horses has seemed reasonable to many specialists, hippologists as well as anthropologists, archaeologists and Indo-Europeanists. In her *Horsepower* Juliet Clutton-Brock noted the new view and endorsed it:

Until very recently, archaeologists held the view that there was no evidence for the riding of the earliest domestic horses or asses. It was believed to be more probable that equids were laden with goods or harnessed to sledges and, later, to wheeled carts and chariots, with riding being a very rare event... However, horses cannot be moved about in any numbers without a mounted herdsman, so there is an inherent probability that they must have been ridden from the beginnings of domestication.⁴²

Augusto Azzaroli develops the scenario in greater detail:

Before the use of horses could become a regular practice, man had to learn to herd them and keep them under control. For this it was necessary, first of all, to learn to ride. This was required by the natural attitudes and social behaviour of horses: they are gregarious animals who under natural conditions live in small herds of mares and foals led by a stallion. They are too swift to be kept under control by dogs, as had been done before with cattle or ovicaprines, and in a primitive economy they could not be stabled like pigs, but open pasturages had to be exploited. Only a herder mounted on a stallion could make use of their natural instinct to keep a herd together and lead it around at will. Riding was a primary requirement for horse breeders.⁴³

As these and other specialists have accepted the argument, it is well on its way to becoming a “fact” in discussions of the prehistory of the steppe.⁴⁴ It therefore deserves a close look.

Although its recent success owes much to Telegin and Anthony, the argument itself was advanced already in 1966 by Gimbutas:

The use of the horse for meat and milk was probably the original motive for its domestication. Ropes or leather straps and bone or antler cheek-pieces for horse bridling must have been used from earliest phases of domestication. It is unthinkable that herds of horses could be controlled on foot. A series of perforated antler pieces, curved, straight, or bifurcated, found in 5th millennium sites north and west of the Black Sea, suggest their use as parts of a bridle.⁴⁵

By making the assumption that people could not have kept the horse as a food animal unless they were able to ride, Gimbutas supported her theory that PIE-speaking warriors on the Pontic-Caspian steppe were riding horses already in the fifth and fourth millennia BC.

Although archaeology has not demonstrated riding in the fourth millennium BC, I think we may nevertheless concede that occasional riding is likely to have occurred soon after the first domestication of horses. A village at which horses were kept would probably have included a daredevil or two who succeeded in “breaking” a horse and then rode it for display or recreation. More common would have been the workaday practice of riding a constrained and walking horse: horses led as pack animals, that is, may often have been required to submit to a rider instead of a pack.⁴⁶ Although we have no representations of such a practice on the steppe, in the Near East asses being led by the nose are sometimes depicted carrying riders.⁴⁷ Even without being broken and without the constraint of a bridle or halter an old mare may have been placid enough that its owner might have been able to hitch a ride home on horseback. But such adventures would have been joyrides rather than economic necessities.⁴⁸

Riding herd—and especially the herding of horses—would have required an immeasurably higher level of horsemanship, and is therefore an altogether different

question. When they moved a herd of cattle from one grazing area to another, nineteenth-century riders in the American West had to have full control of their mounts, and had to be able to exploit all of their horses' speed and quickness. Riders who were capable of managing herds of horses on the steppe must have been at least the equal of American cowboys in their riding ability. Levine interviewed five old men who in their youth, and in the days before collectivization, had been horse-herders in the steppes of Mongolia and Kazakhstan.⁴⁹ Evidently they had once been excellent riders, who managed very well the horse-herds for which they were responsible. How closely would a Copper Age Dereivkan have come in his horsemanship to a nineteenth-century American cowboy, or a twentieth-century herdsman in Kazakhstan? Not closely at all, I would think. In the following chapter we shall see what horseback riding in the Near East looked like in the second millennium, and we shall see that although it must have been exciting it was not very good. That equitation in the steppe had already reached a much higher level *ca.* 4000 BC, and for the next two or three thousand years was somehow kept secret from the unfortunates who lived south of the Caucasus, is difficult to believe. Even if one supposes that the perforated antler-tines from Dereivka were cheekpieces and were used for controlling ridden horses, how is one to imagine that a chalcolithic steppe dweller, who sat atop his horse without stirrups or even a saddle, could have moved a herd of horses from place to place?

Fortunately, there is no need to imagine it. If, as Levine's informant Mamet Kozhakhmetovich Kozakhmetov did in his youth,⁵⁰ one had to take a hundred horses from the village deep into the steppe, pasture them, and bring them back, having seen to it that no mounted poacher or horse-thief abducted any of the animals, then surely one would have to be an accomplished rider. But if villagers in the fourth or third millennium BC had nothing to fear from mounted poachers and did not need to take their horses anywhere, or move them about, they need not have ridden at all. The greatest difficulties for early horsekeepers would undoubtedly have been posed not by wolves or other predators but by wild horses: those wild stallions that still survived may from time to time have tried to drive off a domestic stallion and elope with his mares. Other than having occasionally to kill a persistent wild stallion, however, villagers would not have had to do very much to keep a family group of domestic horses. The assumption that such horses would have to be "herded" or "moved about" by herdsman is puzzling, since steppe villagers should have been able to keep horses while allowing them to range freely, just as people in the Near East had been able to keep asses and cattle very well without the assistance of mounted herdsman. Although no human and few dogs could outrun cattle—whether an individual bull or cow or a stampeding herd—in both the Near East and the Pontic steppe men who had never been on horseback had evidently been keeping cattle successfully since first domesticating them. Animals that are vulnerable to predators need the protection of a herdsman and his dogs. Like asses and cattle, however, adult horses—so well programmed and equipped for flight—are quite capable of getting themselves out of danger. Domestic horses grazing half a mile from the village where their keepers lived would have galloped homeward if they sensed danger. By penning or tethering the foals, the villagers could have ensured that the mares stayed close by, and if the mares stayed so would have the stallion. During the winter especially the provision and promise of fodder would have kept the entire group within calling range, and feeding calls should immediately have brought both horses and cattle home. In short, the

assumption that in the fourth millennium BC steppe dwellers could not have kept domesticated horses unless they were able to ride them is unfounded. At many villages where domestic horses were kept one could perhaps have seen people riding on the backs of pack horses. And here and there one could also have seen an occasional young bravo impressing his fellows by riding a horse without an escort on the ground. But chalcolithic villagers—whether on the steppe, along the Upper Euphrates, or at Csepel-Háros in the Danube—should not have had to be on horseback in order to maintain a supply of domestic horsemeat.

Like other domestic food animals in the fourth and third millennia, horses undoubtedly provided their keepers with a “secondary product,” but it is likely that most often that product was their service as pack animals. Even the small horse of the time would have been able to carry a load of two hundred pounds for a short distance, and a lighter load for miles. For leading a pack animal a halter or, at most, a line and nose-ring would have sufficed; and since horses instinctively follow their leader, by leading a single bellmare or her foal a villager could have brought along to his destination a small caravan of pack horses.

With the buried stallion removed from the picture we no longer have reason to think that the chalcolithic Dereivkans were any more attached to their domestic horses than to their domestic cattle, sheep or pigs. The “head and hoofs” burial was a red herring that for thirty years distracted attention from what Telegin’s excavations showed most emphatically: the voracious appetite for horsemeat in the chalcolithic settlements along the Dnieper. Gimbutas made much of Dereivka, thinking that the site strengthened her theory that late in the fifth millennium horse-riding “kurganites” from east of the Dnieper began to press westward, taking over lands from people who were not horse riders. That someone in Copper Age Dereivka was able to ride a horse is possible but not demonstrable. What is demonstrable is that the horse—after the late mesolithic and early neolithic lull—had by the fourth millennium resumed its role as an important food-animal for *Homo sapiens*.

Although no other site in the “Srednij Stog zone” has produced nearly so many horse bones as were found at Dereivka, at every site the horse was one of the basic food animals. The same was true at the eastern end of the PonticCaspian steppe. At Repin, an early third-millennium site on the Don, excavations in 1956 had shown that almost 80 percent of the ungulate bones were horse bones.⁵¹ At neolithic and Copper Age sites between the Volga and the Urals horse bones make up approximately a fourth of the total.⁵² It has recently become clear that across the Urals dependence on the horse as a food animal was greater still. Since the early 1980s an enormous number of animal bones have been excavated at the Botai settlement in northeastern Kazakhstan. The site seems to date to the period 3500–3000 BC, and of the bones that have been counted 99.9 percent came from horses.⁵³ As Copper Age sites in southern Siberia become better known, they too may prove to have been communities in which people regularly ate horsemeat.

To the west of the Dnieper valley the horse was initially important in the human diet, for a time became marginal, but eventually rebounded. In the mesolithic (perhaps dating to the sixth millennium BC) station at Mirnoe, on the Black Sea coast between the mouths of the Dniester and the Danube, hunters feasted on wild horses when they were not feasting on wild cattle.⁵⁴ Thereafter, however, the wild horse population seems to

have declined precipitously in this area. Most settlements between the Dnieper and the Danube are of the "Tripolye" type. Here too fish were evidently a staple in the villagers' diet, but plenty of ungulate bones were found at these sites. By the early fourth millennium BC, the Copper Age of the Tripolye culture, either the number of horses had dwindled drastically in the western part of the steppe or tastes had changed: while beef and pork were consumed in great quantities (pigs had become the favorite domestic animal) less than one dinner in two hundred featured horsemeat. The trend was reversed during the course of the fourth millennium, and by 3000 BC horsemeat was once again either readily available west of the Dnieper or back in vogue: a tenth of the bones found in Late Tripolye settlements were horse bones, and it is likely that the horses in question were domestic.⁵⁵ We have already seen that in the Carpathian Basin horse bones also began to show up toward the end of the fourth millennium, and that half a millennium later the horse was the most common food animal at Csepel-Háros, in Hungary. There is substantial evidence from other parts of eastern Europe that even in the second millennium horsemeat in general was highly prized, and certain cuts of horsemeat were apparently regarded as gourmet dinners.⁵⁶ When skulls of horses are found in garbage pits the skulls have usually been cracked open, an indication that the butchers extracted the brains.

Horsemeat was also consumed in northern European settlements. At a few sites between the Elbe and the Vistula, late in that region's Trichterbecher (TRB) cultural phase, and so possibly before 3500 BC, the funerary rite included the slaughter of a horse and the deposit of a portion of the meat in the grave. These may have been domestic animals since their bones, which account for about 3 percent of the animal bones recovered at late TRB sites, are found alongside the bones of sheep, goats and cattle.⁵⁷ In central Europe, as in the Pontic-Caspian steppe, horses were sometimes slaughtered and placed whole in the graves of the well-to-do. Most remarkable by far is a third-millennium grave near Gross-Höflein in Austria, in which a man and child were buried together with a nannygoat and kid, a ewe and a lamb, a cow and a calf, and a twenty-year old mare and foal. Along with all of these parent and offspring pairs, the grave included the skeleton of a second mare and the head of a third, this one also about twenty years old.⁵⁸ Surely these were domesticated mares, and their association with cattle, sheep and goats suggests again that they were food animals.

In eastern and northern Europe, as in the steppe, domesticated horses may from time to time have been ridden by show-offs, and regularly ridden as pack animals, but anything more than that is unlikely. In a series of publications beginning in 1980 Jan Lichardus has argued that northern Europeans rode routinely during the TRB period, his argument resting on eight "cheekpieces" found at seven sites in Poland, northern Germany and France, but the argument's considerable weaknesses have been pointed out by Dietz.⁵⁹ Important for Lichardus were two perforated antler-tine artifacts found in a grave at Ostorf, the artifacts having the same shape as those that Telegin found at Dereivka and identified as cheekpieces. Each of four other graves, however, contained only a single such artifact, and none of the five graves contained a horse. An additional oddity is that the northern European artifacts are very large. Of the two from Ostorf one was broken but the other was preserved and measures 18.5 cm. The average length of what is left of the specimens from the six other sites (several are broken) is 23 cm,

considerably longer than the Dereivka objects and—more to the point—too long to have fit against a horse's cheek.⁶⁰

Late in the fourth millennium the way of life on the Pontic-Caspian steppe began to change, as the Khvalynsk, Srednij Stog and Tripolye cultures gave way to the Yamnaya (Pit-Grave) tradition, which was to last through most of the third millennium BC and which eventually characterized the entire Pontic-Caspian steppe, from the Urals to the Carpathians.⁶¹ The Yamnaya culture, as its name implies, featured a new kind of burial. The pitgraves were located in the open steppe, although usually not very far from the river valleys, and were topped by mounds (*kurgans*). These graves were thus the earliest and most rudimentary in a series of increasingly elaborate burial projects. Late in the third millennium BC the so-called “Catacomb Graves” appear, these being distinguished from ordinary pit-graves by a side-chamber in which the skeleton of the deceased was located, the larger chamber usually holding a considerable number of grave-goods. Finally, *ca.* 2000 BC, the first of the Srubnaya or “Timber-Graves” were built. In a Timber Grave pairs of wooden beams were set at diagonals, and the timber frame was then sheathed with planks. After the deceased was laid to rest, along with his or her most prized possessions, the entire wooden “house” was mounded over with a kurgan.

Few settlements dating from the period of this kurgan tradition have been securely identified, and fewer still have been excavated (the kurgans themselves, on the other hand, began to attract attention—and looters—already in the reign of Peter the Great). Gimbutas and other scholars concluded that the people interred in the various kinds of kurgan burials on the Pontic-Caspian steppe, from the late fourth through the second millennium BC, were nomadic pastoralists.⁶² The argument is complex, however, and other specialists believe that throughout this long period the inhabitants of the steppe were essentially sedentary, living in small settlements in the river valleys.⁶³ A recent survey, for example, concludes that along the upper Ural and the lower Tobol valleys sedentism was the rule until the early centuries of the first millennium BC.⁶⁴ In this view the Yamnaya villagers, like their early chalcolithic ancestors, continued to fish the rivers⁶⁵ and to practice agriculture in the river valleys, where the bottom-land was relatively easy to till (away from the valleys the steppe itself offered only tough sod, too difficult for hoes or even for ards and plows to cut). One such river valley settlement of the early Yamnaya period was Repin, on the Don, where we have noted that large quantities of horsemeat were consumed in the late fourth millennium. On the lower Dnieper, settlements from the Yamnaya period have been excavated at Mikhailovka and Durna Skelia.⁶⁶

It is nevertheless quite clear that by 3000 BC, in addition to the narrow resources of the river valleys, stretches of open steppe were being utilized for at least part of the year. This land served not for farming but for stockraising. During the warm months herdsmen seem to have taken their cattle and ovicaprids several days' walk into the steppe for extended grazing,⁶⁷ and the term “semi-nomadic” is therefore not inappropriate for the Yamnaya economy. In the cold months the herdsmen presumably stayed home in their river valley settlements, feeding their animals dried and stored fodder such as grassy or leafy hay.⁶⁸ The bone counts from sites in the steppe show that the consumption of ovicaprids rose significantly during the Yamnaya period, and it is generally agreed that the principal product of this economy was wool.

This semi-nomadic pastoralism that seems to have begun late in the fourth millennium BC should not be confused with the fully nomadic way of life that is known from the Iron Age. The Skythians and Sarmatians of the first millennium BC had no permanent settlements, and lived year-round in wagons, tents and yurts. On the basis of later and better documented nomadism we may assume that every year the Skythians and Sarmatians followed their flocks and herds over hundreds of miles and through a cycle of seasonal stations.⁶⁹ The Iron Age nomads were horseriders, and we shall look more closely at their riding habits in Chapter 4. Here it is important to note only that most specialists are persuaded that nomadism—which is considerably more complex than nineteenth-century scholars had assumed—did not emerge before *ca.* 1000 BC.⁷⁰ In the tenth century BC the inhabitants of the steppe west of the Volga began to abandon their settlements in the river valleys, and soon thereafter the villages of the Andronovo type⁷¹—most of them east of the Urals, in the valleys of the Irtysh, the Ob and their tributaries—were also deserted. By the eighth century BC people throughout the Eurasian steppe had given up agriculture and were dependent entirely on their animals. Although pastoral nomadism has long been a shrinking phenomenon, in parts of central Asia it was still common as recently as fifty years ago. It thus was a practical way of life for almost three thousand years, and vividly impressed itself on the historical memories and poetic imagination of Europeans. I shall return to the subject of nomadism in connection with the Skythians of the Iron Age, and at this point wish only to make the contrast between true nomadism and the kind of semi-nomadic society and economy that seems to have spread through the Eurasian steppe from the late fourth until the end of the second millennium BC.

It has been proposed that the ability to ride horses was essential for the emergence of semi-nomadic pastoralism at the beginning of the Yamnaya period,⁷² but that is not at all clear. The development of a woolly breed of sheep, a development that was part of what Andrew Sherratt has called “the secondary products revolution,” was evidently a *sine qua non* for pastoralism, since wool seems to have been what the pastoralists produced for exchange. The first woolly sheep were evidently bred already in the fifth millennium BC (in the earlier neolithic period sheep were hairy rather than woolly, and except for felting the hair was of little value), and so would not have been the immediate stimulus for the Yamnaya pastoralists. But the sheep were essential, and so we must ask whether a man on horseback would have been required, or even useful, in herding sheep. A mounted shepherd, with his horse fully under control, could much more easily have circled a large flock. But if he had only a small flock—fifty or sixty ewes and their lambs—and if his control of his horse left something to be desired, the shepherd may have found that a horse caused many more problems than it solved. Shepherds in the Near East and the Aegean during historical times were rarely mounted, and we may therefore doubt that horseback riding was necessary for the semi-nomadic pastoralists of the late fourth and the third millennia.

Better is Anthony’s suggestion that the invention of the wheeled vehicle may have helped to precipitate semi-nomadic pastoralism. The invention may have occurred in Mesopotamia *ca.* 3500 BC, but wherever wheeled vehicles first appeared they spread quickly through much of the Near East (although not to Egypt), through much of Europe (but not to the lands along the Mediterranean), and through all of the Pontic-Caspian steppe.⁷³ The *kurgan* graves of the steppe provide some of the best—although not the

earliest—evidence on wheeled vehicles before the age of the chariot. Especially after *ca.* 2500 BC, the survivors of a well-to-do man or woman often placed in the grave the wagon—or a part of the wagon—on which the deceased had been transported to the burial-site. More than two hundred such vehicle burials have been found on the steppe, thirty of the earliest being in Pontic-Caspian pit-graves and “catacomb” graves.⁷⁴ The practice was not limited to the steppe: the same kind of burial is well attested south of the Caucasus (in the so-called Transcaucasian culture) and also in eastern Europe. On the basis of calibrated carbon dates, Anthony assigned the earliest wagon burial thus far discovered in the steppe to the end of the fourth millennium.⁷⁵ Although most of the burials seem to belong in the second half of the third millennium BC, fairly late in the Yamnaya period, analogous burials in eastern Europe indicate that the pastoralists were using wheeled vehicles before 3000 BC.⁷⁶ Perhaps in the fourth millennium wagons were still too precious to be sent to the underworld.

Wheeled vehicles would have been a help for people who moved between a village in the Pontic-Caspian river valleys and a pasturage ten or fifteen miles deep into the steppe. Prior to *ca.* 3500 BC oxen and horses pulled sledges and carried loads on their backs, but what could be carried or dragged by two pack animals was less than what could be drawn in a cart or a wagon by a yoked team of oxen. A shepherd taking his dogs and sheep into the steppe pastures would have loaded into his oxcart not only food, a tent and a blanket, but also a few tools and weapons (on a cart he could securely stow even his bow and arrows). Another advantage of a cart over pack animals was that it did not need to be unloaded and reloaded at every stop, and that all night long the supplies stayed high and dry. It is therefore not difficult to imagine that the availability of wheeled vehicles may have been crucial for the emergence of semi-nomadic pastoralism on the Pontic-Caspian steppe.

The invention of the wheeled vehicle may have required horses to serve, now and then, as draft animals. We must nevertheless keep in mind that with their planked platforms and solid disk wheels these early vehicles were clumsy and heavy. Four-wheeled wagons were especially difficult to manoeuvre: because their front axles did not pivot, neolithic and Bronze Age wagons could have been turned only with much time and effort.⁷⁷ A wagon reconstructed in 1989 according to late fourth-millennium specifications weighed 259 kg.⁷⁸ For pulling these heavy loads oxen were much more serviceable than equids. In antiquity all vehicles were pulled from a yoke, and in its anatomical structure *Equus caballus* is not so well adapted to the yoke as is *Bos taurus*. Because a team of oxen could draw almost twice the load that a team of equids could draw, it is not surprising that in graves where skeletal evidence of paired draft animals survives from the third millennium BC the skeletons are regularly those of oxen.⁷⁹ Not until the invention of the spoked wheel, *ca.* 2000 BC, does one find a burial of a wheeled vehicle drawn by paired equids.⁸⁰

Although oxen were the draft animals *par excellence*, it is nevertheless possible that horses saw limited service in that capacity in the fourth and the third millennia BC. We have no evidence—whether skeletal or representational—of horses hitched to carts in the steppe, but we do know that in Mesopotamia in the third millennium BC wheeled vehicles were occasionally drawn either by onagers or by ass-onager hybrids, sometimes four animals abreast pulling a cart. Two- or four-horse teams of horses may therefore have been used here and there on the steppe after wheeled vehicles came into use. Even

before 3500 BC horses could conceivably have been used to pull the light plow, or ard, which farmers had begun to use instead of the hoe.⁸¹ Until the development of the light chariot, however, few people would have thought of the horse as a very effective draft animal, because its speed was not yet utilized and its strength was inferior to that of an ox.

The evidence for horses in the Yamnaya economy is surprisingly limited. Bones and skeletons of horses found in the pit-graves show that the Yamnaya villagers from time to time provided their deceased relative with a portion of a butchered horse, and on rare occasion with an entire horse. The horse bones, however, usually appear in conjunction with the bones of cattle,⁸² and even when an entire horse was placed in the grave it was not accompanied by harness elements. It is unlikely, therefore, that the horses were slaughtered in order to serve as mounts or draft animals in the afterlife. Other possible evidence for the horse in the Yamnaya culture comes from stone “scepters” found in the graves: the scepters, sometimes of diorite or even precious stone, commonly terminate in a representation of an animal head, and the horse was probably one of the animals depicted (although some of the heads identified as equine could also be described as canine or even reptilian).⁸³ Finally, horses appear in a handful of poorly drawn representations carved on stone or incised in pottery.⁸⁴ In none of these, however, is the horse shown carrying a rider or drawing a vehicle, and the figures may therefore represent food animals, whether domestic or wild.

The volume of evidence for the consumption of horsemeat in Europe and on the Eurasian steppe before 2000 BC is somewhat depressing for scholars in the English-speaking world, and most often has been ignored. Discussions about horses and humans in the fourth and third millennia BC have focused on possible cheekpieces, on dental evidence for bit-wear, or on anything else that conceivably points to the humans’ use of the horse as a riding or draft animal. It is possible that on occasion in these early times horses may have been ridden and also driven, and horses were undoubtedly—like asses and mules—often used as pack animals. But the evidence we have for the fourth millennium and most of the third shows that the reason people kept horses at that time, first in the steppe and then at a few places in Anatolia and at many places in eastern and northern Europe, was that these people ate horsemeat.

3

SPEED

In the late fifth, fourth and third millennia the inhabitants of the PonticCaspian steppe occasionally carved figurines of horses or of horse-heads, and incised or painted figures of horses on pots or stelae. The steppe dwellers also engraved, carved or painted a few figures of men. But excavations of steppe settlements and graves of the period 4000–2000 BC have not yet produced a figure of a man on a horse. The earliest of what are called “horse-head sceptres” date from before 4000 BC, but as noted in the preceding chapter the heads are not certainly those of horses.¹ More certain are fourth-millennium figurines, carved from boars’ tusks, which clearly depict a short, stocky horse with a short mane.² On a third-millennium beaker found in a burial at Tudorovo, a Late Tripolye site, the potter or his assistant painted a row of line-figure animals, and the length of the neck and the tail suggests that the animals were meant to be horses.³ The prize representation of a horse found on the steppe in a third-millennium context appears on a silver vase deposited in the great burial at Maikop, just north of the Caucasus (see Figure 3.1). The Maikop horse, like the others that were painted, etched or sculpted on the steppe before 2000 BC, wears no elements of harness or control. Evidently a few steppe artists found horses worthy of depiction, but no more so than cattle or wild animals, and from the very limited artistic evidence that has been found one would not suspect that during the fourth and third millennia anyone on the steppe had ever seen a horse being ridden or driven.

The earliest representations of an equid carrying a rider come from the Near East. Already in the fourth millennium Palestinians were making clay figurines of domesticated asses, but these were pack animals carrying panniers.⁴ Not until the second half of the third millennium do we find a representation of a person sitting on an equid of one sort or another, and the representation was carved by a Mesopotamian artist. Eleven cylinder seals or seal-impressions display riders, but until recently none had been found in a state of sufficient preservation for anyone to be sure whether any of the equids portrayed was indeed a horse, or whether all may have been asses or onagers.⁵ An unbroken sealing, published by David Owen in 1991, has now solved that problem: the cylinder seal belonging to Abbakalla of Ur, a scribe in the service of King Shu-Sin, depicted a man riding what is clearly a horse.⁶ In the sealing on this newly published tablet we see (Figure 3.2) the short ears, the long mane, and the full tail that distinguish a horse from an ass or an onager. Abbakalla’s horse was either cantering or galloping, and the rider, perhaps naked, held a short stick in his right hand. On the “middle Babylonian chronology” Shu-Sin ruled Ur from 2037 to 2029 BC, and Owen is therefore justified in concluding that “the seal of Abbakalla is likely to be the earliest known unequivocal representation of a horse and its rider.”⁷

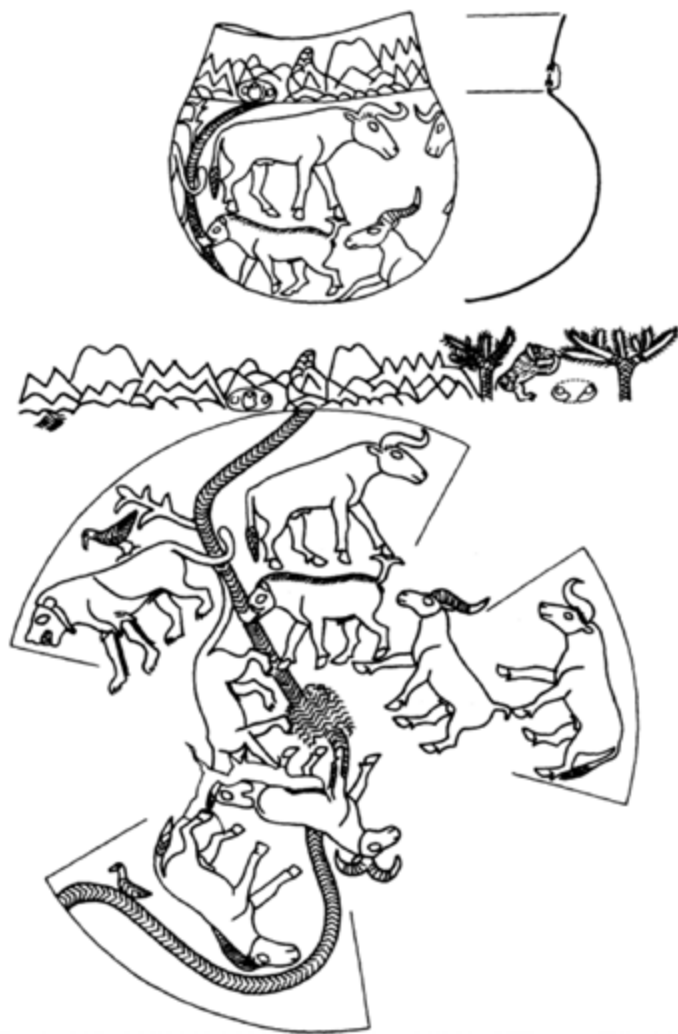


Figure 3.1 Drawing of animal frieze on silver vase from Maikop (inv. no. 34–94); drawing by E. Matveyev; courtesy State Hermitage Museum, St. Petersburg.



Figure 3.2 Tablet with sealing of Abbakalla of Ur, ca. 2030 BC; courtesy David Owen.

Earlier riders have been found, but what they are riding is not certain. According to Littauer and Crouwel a seal-impression found at Kish is “the first crude representation of riding on an equid.”⁸ This sealing dates either from the end of the Early Dynastic period or from the beginning of the Akkadian period, and so can be roughly assigned to the century 2400–2300 BC. Other seals and impressions date from the Akkadian and the Ur III period. As Littauer and Crouwel note, all the riders are male and they ride bareback and astride.⁹

All through the Bronze Age, people in much of the Fertile Crescent produced and treasured small terracotta figurines of humans and animals. In Syria alone several thousand Bronze Age figurines have been found, and in 1980 these were catalogued and published by Leila Badre. The favorite figurine by far, both in Syria and elsewhere, was that of a nude female, whom archaeologists and other specialists have inevitably called a “mother goddess,” an “Astarte figurine,” or a *déesse nue*.¹⁰ Much less popular (counted in the dozens rather than the hundreds) were figurines that Badre labeled “cavaliers,”¹¹ the earliest of which date toward the end of the third millennium BC. These figurines indisputably represent riders on animals (see Figure 3.3), but so crude is the modeling of the clay that again we can not be certain what exactly the ridden animals are. Their proportions are equine, and more reminiscent of a horse than of an ass or an onager, but none of the figurines includes a distinctive feature that would permit one to say with

assurance that the modeler was trying to represent a horse. The “cavaliers” themselves are almost as ambiguous as their mounts, and often are simply fused to the latter in a swollen blob. In every case where such things can be distinguished the rider has two legs, and so is undoubtedly meant to represent a human. When faces are preserved the face is sometimes more reminiscent of a bird or a reptile than of a person, but this may simply be a result of the modelers’ inability to represent accurately what they intended to represent.¹²

The style of riding exhibited in most of the Syrian figurines is unorthodox, to say the least. The rider is seated—and in some figurines is standing far forward, on the mount’s withers or forequarters, the rider’s arms being wrapped around the animal’s neck. Insofar as the gender of the riders is indicated, it is evidently male, since in some cases the face seems to sport a beard. That *ca.* 2000 BC men in Syria rode in such a fashion is incredible, although it may be that from time to time someone tried to do so as a stunt. Less bizarre are five or six figurines that feature a person, probably female, riding in a style that Badre calls “en amazone” and that we would call “side-saddle” except that none of the Syrian figurines shows a saddle (just as none shows a bridle or halter).

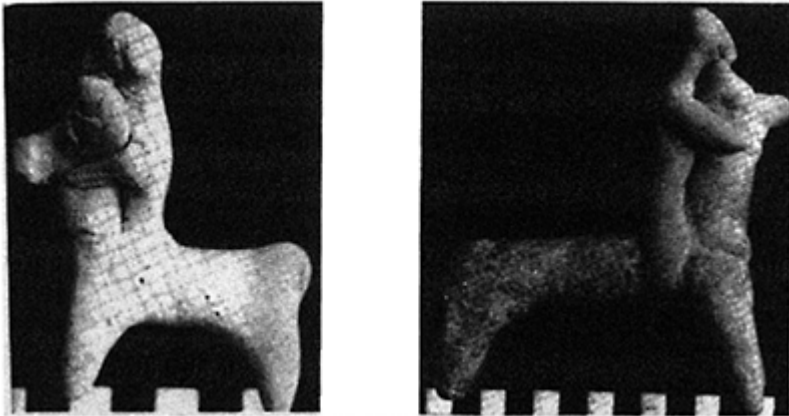


Figure 3.3 “Cavalier” figurines from Syria, ca. 2000 BC; Badre 1980, Pl. LXVII, nos. 73 and 79; courtesy (rights reserved) the Institut français du Proche-Orient.

In a recent article Roger Moorey has shown that the terra cotta “cavaliers” produced in Mesopotamia and Syria at the end of the third millennium inaugurated a tradition that was to last until the Hellenistic period, and that eventually spread west to Cyprus, south to Palestine and Egypt, and east to Iran.¹³ After its relatively vigorous commencement some time before 2000 BC the tradition abated but did continue, albeit very tenuously, through the Middle and Late Bronze Age and the opening of the Iron Age. In the eighth century BC the number of figurines—still all made by hand—increased markedly. By the sixth century BC terra cotta horsemen were being massproduced from molds, and many

hundreds—if not thousands—of rider figurines from the Persian period remain unpublished.¹⁴ The equids represented in these later and finer figurines are incontestably horses (the mane was a favorite feature), and it is noteworthy that the rider continues to prefer the fantastic riding style, seated on the horse's withers and wrapping his arms around his mount's neck (see Figure 3.4). Like their Bronze Age antecedents, the Iron Age figurines depict no saddles or bridles.

The rider figurines, Moorey suggests, were produced primarily to serve as votive objects. They are too widespread to have been associated with any single god or goddess, “though they probably served more often than not as offerings to a specific deity in a particular place or region, as at Kourion in Cyprus, where they are assumed to have been votaries of Apollo.”¹⁵ If Moorey's explanation is correct, perhaps we may suppose that when horseback riding came into vogue in the Near East, late in the third millennium, a precautionary ritual was devised to accompany it: men (and occasionally women) who undertook the new and dangerous activity made a vow to whichever deity seemed most likely to keep a rider safe from accident or injury, and the figurine reflected the vow. An alternative explanation, attractive for those figurines found in houses rather than in temple deposits, is that simply by having such a figurine in his house a rider availed himself of its protective power.



Figure 3.4 “Persian” rider figurines, ca. 500 BC; courtesy Ashmolean Museum, Oxford (nos. 1938.1334 and 1335).

The earliest of the dateable “cavaliers” come from Tell Selenkahiye, in the Euphrates region of Syria: one from Level III (2200–2100 BC) and one from Level IV (2100–1900 BC). Those dates, Badre suggested, “ne sont pas en contradiction avec celle de l’introduction du cheval au Proche-Orient.”¹⁶ It is pertinent that some of the earliest osteological evidence for horses south of the Tauros mountains comes from Tell Selenkahiye, and from this period.¹⁷ Perhaps we should not think in terms of “the introduction of the horse” into the Near East or anywhere else, since it is unlikely that such a singular event ever occurred: more likely is that over the fourth and third millennia hundreds of horses had been brought into the Near East, where they were butchered and eaten, their “introduction” into the Near East being of no further consequence. What happened toward the end of the third millennium is that the importation of horses into the Near East became, for the first time, historically significant. The “cavalier” figurines suggest that in Syria and Mesopotamia horses were by *ca.* 2000 BC attracting considerably more attention than they had ever done as food animals: men were riding them, and were evidently finding the experience risky but also thrilling. Never before in the Near East had anyone been transported at such breathtaking speed.



Figure 3.5 Tell es-Sweyhat figurine, *ca.* 2300 BC; courtesy Oriental Institute, University of Chicago.

Still earlier than the figurines studied by Badre is a recently discovered clay figurine from Tell es-Sweyhat,¹⁸ this one without a rider but clearly depicting a horse (see Figure 3.5). Tell es-Sweyhat, where archaeologists from the University of Pennsylvania have been excavating since the 1970s, lies in central Syria, on the east bank of the Euphrates river and about sixtyfive miles downstream from ancient Carchemish. The figurine was found in a stratum dated *ca.* 2300 BC. A perforation at the side of the mouth has been taken as

evidence that at one time the figurine may have included a bridle, with cheek-pieces,¹⁹ but that would be surprising because Syrian and Mesopotamian representations dating four and even five centuries later than the Sweyhat figurine still show horses being controlled by lines leading to nose-rings. In any case, the riderless Sweyhat horse is the earliest representation of a horse thus far found in all of the Near East, Egypt and the Aegean. Close behind are figurines from Tell Mozan, ancient Urkesh, in northeastern Syria and close to the Turkish border. Equid figurines, again riderless, have recently been found here in a level dating *ca.* 2200 BC.²⁰ Although some of the Urkesh equids seem to be asses or onagers, several look like horses, and two of the equids wear a halter.²¹

Much more competently executed than the early figurines of “cavaliers,” and much more informative, are clay plaques on which figures of riders appear in low relief. The plaques were found in southern Mesopotamia and the first of them—like the first figurines—date from the end of the third and the beginning of the second millennium. Because they were made from a mold we must suppose that the few that have survived are a small fraction of those produced. On some of the reliefs the equid being ridden may have been an onager, but in others the figure is quite clearly that of a horse. Three of the Mesopotamian plaques were first published by Moorey some thirty years ago, in an article which also studied the eight specimens that had been previously published.²² Although several of the plaques are broken or fragmentary, as a group they are our best guide to the methods and competence of early riding in the Near East.

The riders on these plaques are men, most of them bearded, and in most cases naked except for a large cap or turban (was the big cap meant to protect the head in case of a fall?). The men’s nakedness implies that riding was a rigorous activity, in which normal clothing would have been a serious and possibly even fatal impediment. Unlike their counterparts on the figurines, who sit forward and cling to the necks of their mounts, the plaque riders tend to sit back. Several of them are seated in the “normal” position, atop the horse’s rib-cage (in technical terms, above thoracic vertebrae 11–18), but others sit far back, above the animal’s loins, just ahead of the hips. One reason for a rider to sit above the loins is that here the horse’s back flattens out. Above its rib-cage, and especially toward the withers, the horse’s spine forms a more pronounced ridge, and when a man sits atop this spinal ridge his testicles tend to be battered when the horse begins to run and he begins to bounce up and down at every gallop. The pain and discomfort are minimized by saddles or even thick saddle cloths, but *ca.* 2000 BC such things were not yet in use. The Mesopotamian rider rode bareback, and his only security on a horse or onager was provided by a girth, or surcingle, analogous to the cinch-belt to which today’s saddle is fastened: the Mesopotamian rider grasped the girth with one hand and occasionally even with two, and so sat behind it. As described by Moorey, “where a girth is shown it seems to serve the rider as an anchor, for he grasps the top much as a modern rider might his saddle-arch.”²³ On one plaque the rider sits atop the girth and grasps it with his left hand, while holding the control line or reins in his right. On a second plaque (see Figure 3.6) the rider sits behind the girth, grasping both it and the control with his left hand, and in his right he carries a stick or goad. Most secure of all is the rider on a plaque from Kish (Figure 3.7): here the rider not only grasps the girth with his right hand but also has his knees thrust between the girth and the horse’s belly. In order to do that, he of course sits far back, directly above the horse’s hips.²⁴

Although only a few of his Mesopotamian plaques were found in stratified contexts, Moorey observed that very rough dates for the entire group can be fixed with some confidence. The earliest of the plaques uncovered in an excavation was found at Tell Asmar, in a stratum belonging either to the Ur III period or to the subsequent Isin-Larsa period, and so dating either just before or just after 2000 BC. Others, from Kish, Nippur and Ur, cannot be dated so precisely but came from strata belonging to the period 2000–1500 BC. Unfortunately, the production of clay plaques with reliefs impressed from a mold was evidently limited in time to the very period 2000–1500 BC. It is therefore unwarranted, as Moorey notes, to assume that the Tell Asmar plaque signals the beginning of horse riding in southern Mesopotamia: it could just as well signal the beginning of plaque making. Nevertheless, the convergence of both textual references and artifactual evidence suggests that here too, as in Syria, the riding of horses began toward the end of the third millennium BC.

Horseback riding seems to have come into vogue in the Near East as a sport or athletic display. In his study of the plaques Moorey concluded that “the riders they portrayed are



Figure 3.6 Mesopotamian plaque showing horse and rider, ca. 2000–1750 BC; drawing by Jaap Morel in Littauer and Crouwel 1979, fig. 37; courtesy Mary Aiken Littauer and Joost Crouwel.



Figure 3.7 Plaque found at Kish showing horse and rider, ca. 2000–1750 BC; Moorey 1970, fig. 13b; courtesy Roger Moorey and the British School of Archaeology in Iraq.

completely unarmed and extremely lightly clad, if clad at all Speed would appear to be their aim.”²⁵ Like the plaques, the cylinder sealings show the horses (and other equids) with legs extended. David Owen observed that on the sealing of Abbakala “no bridle is indicated. ...The front leg(s) of the equid is (are?) bent at the knee and the overall (intended?) impression made by both front and rear legs is that of a canter, gallop or run.”²⁶ Like the pictorial evidence, the few textual references to horses focus on their speed. One of the two Sumerian terms for “horse” was ANŠE.ZI.ZI, which literally meant, “speedy ass.”²⁷ In one of the many vaunts composed for King Shulgi of Ur, whose 48-year reign accounted for almost half of the Ur III period, the king compares himself to “a horse, waving its tail on the highway,... a stallion of Šakan, eager to race.”²⁸

Although Near Eastern riders ca. 2000 BC rode fast, they did not necessarily ride well. That they rode bareback should not be misinterpreted. In later periods of history bareback riding was often a display of horsemanship at the highest level, the rider using his thighs to grip the horse’s belly as it ran, and his hands to wield a weapon. Reference must be made here to bareback riding among Native Americans in the eighteenth and nineteenth

centuries. Typically the Native Americans rode with a saddle, either a frame saddle or a cloth saddle. The frame saddles were evidently diffused from sixteenth-century Spanish prototypes, and their use—along with the horse itself—had evidently spread throughout the Great Plains in the seventeenth century.²⁹ The several tribes of the Plains Indians were the pre-eminent “horse cultures” of the American West, and in these tribes it was expected that every male would be a superb rider. Although the men normally (and the women always) rode with a saddle, during a “scalp raid” the men rode bareback.³⁰ That was essential because as the brave neared his intended victim he slid to the side of his horse, hanging on with one arm around the horse’s neck and one leg arched over its back, his free hand wielding a shock weapon such as a tomahawk or a skin-club (after stunning or crippling his victim the brave would glide to the ground and scalp him with a knife).³¹ This ability to ride bareback was, as it were, an advanced stage of horsemanship: before any bareback riding was attempted, the rider and his horse had served a long apprenticeship with saddles and stirrups.

Such examples of expert bareback horsemanship must not be confused with what the pictorial evidence shows for the Near East *ca.* 2000 BC. Far from being engaged in battle, the bareback riders depicted in the Mesopotamian plaques were evidently riding with no purpose other than to complete their rides successfully. They rode bareback not because a saddle would have impeded their hanging from the horse’s neck while dispatching an enemy, but because saddles were not yet known. Saddles came into use when men had become confident enough about their riding that they could begin to concern themselves with questions of comfort or “ease.”³² In the early second millennium BC Near Easterners daring enough to ride a horse did not yet have that luxury. At this stage of horsemanship a rider was apparently not yet the master of his mount, and not yet sure of his ability to keep it from running out of control. In that event, a backward seat may have facilitated the rider’s ability to “eject” himself by pushing himself off the horse’s rear. It is of course unlikely that any Mesopotamian would have enjoyed riding naked and bareback for more than a short distance, but as an athletic display a brief ride would have given pleasure to both the rider and spectators.

Riders in the late third and early second millennium would have had some difficulty in giving lateral direction to their mounts, but lateral direction may not yet have been a high priority. The only means of control shown is quite elementary. As summarized by Moorey, “where the harnessing of the animal’s head is preserved it seems always to be the same: simple reins fixed to a ring passed through the beast’s nose whether onager or horse, and held in the rider’s left hand. On many of these plaques it is by no means certain whether there was a single rein or a pair.”³³ A single line to a nose-ring must have been primarily intended as a means of bringing a horse to a stop, but by flipping the line to the right or the left of the horse’s head the rider may have had some success in turning the horse in the desired direction. In addition, the rider may have tried to give lateral direction by striking his mount on the one side or the other with the goad or stout stick that riders routinely carried. The combination of nose-ring and goad were effective controls for a pack-animal but not for a ridden horse. James Downs, with experience as a professional horseman, thought the nose-ring and stick were appalling devices for controlling a horse, which by nature is far more nervous and excitable than an ass or an ox: “It is inconceivable that any horse would have responded to this method in any manner except sheer panic.”³⁴ Downs’ assessment may be somewhat overstated, but it

must be conceded that the Mesopotamian riders simply transferred to their mounts the controls that had traditionally been employed for asses and onagers, or possibly for horses when used as pack animals, and we must also suppose that the horses ridden with such controls were much abused.

That early Near Eastern horsemanship was seriously deficient by modern standards is not a brand new insight. Hippologists have for some time been aware that horsemanship in the Near East *ca.* 2000 BC was essentially assmanship. Juliette Clutton-Brock and Mary Littauer noted that differences in anatomy between the horse and the ass call for different styles of riding:³⁵ because the ass has low withers and also a low carriage of neck and head, its rider is at some risk of sliding forward over the ass's head, especially if the beast takes a sudden notion to stop. Ass riders are therefore most secure if seated on their mounts' loins. A horse, with its high withers and high neck carriage, invites the rider to sit in a forward seat, atop a saddle or substantial padding. Clutton-Brock and Littauer noted that in defiance of all this the Near Easterners who rode horses *ca.* 2000 BC did so from the "donkey-seat." Augusto Azzaroli was even more critical of the ancient Near Easterners' horsemanship:

There is no uniform riding style: on the contrary, the attitudes of the riders are varied, but all of a kind that we would now consider utterly inadvisable. In one instance the rider is seated on the croup, claspings the barrel of his mount with fixed legs. The left hand holds the reins and at the same time holds the broad belt fastened to the horse; the rider's body is turned to the right and the right hand holds a stick and grabs the root of the tail. In another case the rider is sitting on the loins, in a backward position and grasping the barrel with his heels.³⁶

Moorey generalized that his plaques "certainly show an early stage in the development of equestrianism since the manner of riding and harnessing adopted is that developed for bovinds and onagers."³⁷

Despite the consensus that Near Easterners rode badly when we first catch sight of them, at the end of the third and beginning of the second millennium BC, the implications of such poor riding have hardly been recognized. Potratz supposed that from the time that horses were first domesticated the inhabitants of the steppe were *Reitervölker*, and that without saddle, bit and bridle they were able to control their horses perfectly. The bit, according to Potratz, came into use because the typical Near Easterner, who wished to drive and ride horses despite having little familiarity with them, needed some fool-proof means of controlling the animal.³⁸ Anthony, Azzaroli, and Clutton-Brock, as noted in Chapter 2, argued that *ca.* 4000 BC men on the Eurasian steppe were already accomplished riders, who on horseback were able to control herds of horses being raised as food animals. Littauer and Crouwel assumed that on the steppe the ridden horse was the normal means of rapid transportation long before the chariot's invention.³⁹ These hippologists hold, in other words, that for at least two millennia horsemanship on the steppe was immeasurably better than it was south of the Caucasus. This proposition, as we shall see, rests on no evidence at all. It seems much more likely that within a few decades—or at most a few generations—of taking up riding the Near Easterners would have reached a level of horsemanship not terribly inferior to that of the people whom they

were trying to emulate. In other words, what we learn about the beginning of horsemanship *ca.* 2000 BC in the Near East, the only region for which that period is documented by textual and pictorial evidence, should tell us something about the evolution of horsemanship throughout the ancient world. In the Near East horseback riding seems to have begun as a sport, or an athletic challenge, toward the end of the third millennium BC. A rider was evidently proud of his ability to ride so speedy an animal, but was in no position to exercise much control over it, or indeed to accomplish anything other than keeping his seat as the horse ran. If a horse began galloping at a dangerous speed, the rider could try to stop it by yanking the nose ring, but with a spirited horse the results of such a violent movement must have been as disastrous for the rider as for the horse. Men rode, it seems, because they enjoyed it and saw it as a demonstration of their courage and coordination. Riding was practically useless.



Figure 3.8 Sealing of a god sitting on a horse, Kültepe, *ca.* 2000 BC; drawing by Jaap Morel in Littauer and Crouwel 1979, fig. 38; courtesy Mary Aiken Littauer and Joost Crouwel.

What holds for Syria and Mesopotamia seems to hold also for adjacent lands. In Anatolia the earliest unattended rider appears on a seal-impression from Level II of the trading

center or *karum* discovered at Kültepe.⁴⁰ The Bronze Age city at Kültepe was ancient Kanesh, where the Hittite language seems to have evolved, and Level II of its *karum* is now dated from late in the twenty-first through the twentieth century BC.⁴¹ The animal being ridden on the seal-impression (see Figure 3.8) has almost as many canine as equine characteristics, but since the mane seems to have been of special interest to the artist we may suppose that he was trying to depict a horse. The rider, dressed in a long robe, is perhaps either a deity or some other figment of the imagination.⁴² More interesting, and far more certain, is the style of riding and the means of control. The rider is perched “side-saddle” on the animal’s croup, and holds a single line that leads to a ring through the beast’s nose. Had the Hittite speakers of *ca.* 2000 BC known a better way to ride, and had their artists been experienced in representing horses on sealstones, a gentle-man would not have been satisfied with a cylinder seal that presented one of his gods in such a poor light. I think we can assume that until near the end of the third millennium BC the only riding with which people at Kanesh and elsewhere in central Anatolia were familiar was the riding of a pack animal led by an attendant.

Perhaps it will be objected that “the Hittites were Indo-Europeans,” and therefore should have been riding expertly for centuries if not for millennia before 2000 BC.⁴³ What evidence we have, however, suggests not only that in 2000 BC horseback riding was still a novelty throughout the Near East (including Anatolia) but also that Near Easterners were not far behind the inhabitants of other lands in their experiments with riding. In several regions, that is, the sport of riding seems to have been adopted even later than it was in Anatolia and the Fertile Crescent. Looking to the west and to the Aegean world, we note that no “Minoan” representation of a horse and rider has yet been found, nor does such a combination appear in Mycenaean art until close to the end of the Mycenaean Age. In Egypt there is no evidence at all for horseback riding in the Old Kingdom or the Middle Kingdom. To the east, clay horsemen dating no earlier than *ca.* 1700 BC “are the oldest terracotta riders so far recorded for the Indo-Pakistani subcontinent,” and riding is mostly absent from both textual and physical evidence for second-millennium India.⁴⁴ In China the domesticated horse does not seem to have made its appearance until the middle of the second millennium, when it was imported as a draft animal for chariots.⁴⁵ For the next thousand years the horse in China was linked to the chariot, and both textual and archaeological evidence indicates that the Chinese did not begin to ride their horses until the fourth century BC.⁴⁶

Unlike people in the Near East, the Aegean, Egypt, India and China, many inhabitants of temperate Europe—and specifically eastern and central Europe—had been raising horses as food animals all through the third millennium. As remarked in Chapter 2, at Csepel-Háros in Hungary horse bones account for more than half of all the bones found in the third-millennium settlement, and the horses of Csepel-Háros were certainly domestic. In areas where domestic horses were common we should expect that riding had from time to time been attempted, and we should therefore be safe in assuming that the kind of riding attested for the Near East by 2000 BC had by that time also been seen in many villages of temperate Europe, and possibly as far west as Ireland.⁴⁷ Riding in neolithic and Bronze Age Europe must be taken on faith, however, since our earliest direct evidence is much later. Renfrew finds that in temperate Europe the first depictions of ridden horses are no earlier than the Hallstatt C period (sixth century Bc).⁴⁸

Turning to the Eurasian steppe (see map at Figure 3.9), we again can hardly doubt that here, as in temperate Europe, athletic riding had been seen for some time—for decades, certainly, and perhaps for generations—before it came into vogue in the Near East. Because in both the Tripolye and the Yamnaya cultures horses were commonly raised as food animals, it may well be that it was in one of those cultures that the sport of riding originated. In Late Tripolye villages, west of the Dnieper, the mean percentage of horse bones is *ca.* 10 percent but at one site horse bones were 26 percent of the total.⁴⁹ In the Yamnaya culture to the east of the Dnieper the horse was even more important in the villagers' diet. We have seen that at Repin, between Volgograd and the Don, 80 percent of the ungulate bones in third-millennium levels are horse bones. Another good candidate would be the dry steppe to the east of the Caspian and the Urals. At Savin, just east of the Urals and not far from Chelyabinsk, the villagers in the late third millennium BC (contemporary with the Yamnaya culture to the west of the Urals) were just as dependent on horsemeat as were the villagers at Repin: 80 percent of the bones discarded at Savin during this period were horse bones.⁵⁰ Surely in places where horses were so ubiquitous at least a few young men had learned to ride at least a few horses.



Figure 3.9 Reference map of pertinent sites in Asia; drawn by sherrye young.

Nevertheless, such riding as there was could not have been of much consequence. Ute Luise Dietz, who has recently completed a catalog of almost seven hundred bits found on the Pontic-Caspian steppe and dating from the tenth to the seventh centuries BC, concluded that here as elsewhere true riding did not begin until the first millennium BC.⁵¹ It is somewhat surprising that the earliest direct evidence for riders in the steppe seems to

be relatively late. Because the steppe has for a long time been central to discussions about the evolution of horsemanship one would suppose that by now one could refer to a standard corpus of steppe representations of riders. But neither Gimbutas nor Anthony set out the direct evidence for early riders on the steppe, and if such a corpus exists I am unaware of it. Although several hippologists have suggested that at least a few rock carvings of riders date to the middle of the second millennium BC, the suggestions have not been accompanied by illustrations or specific references. Specialists on the

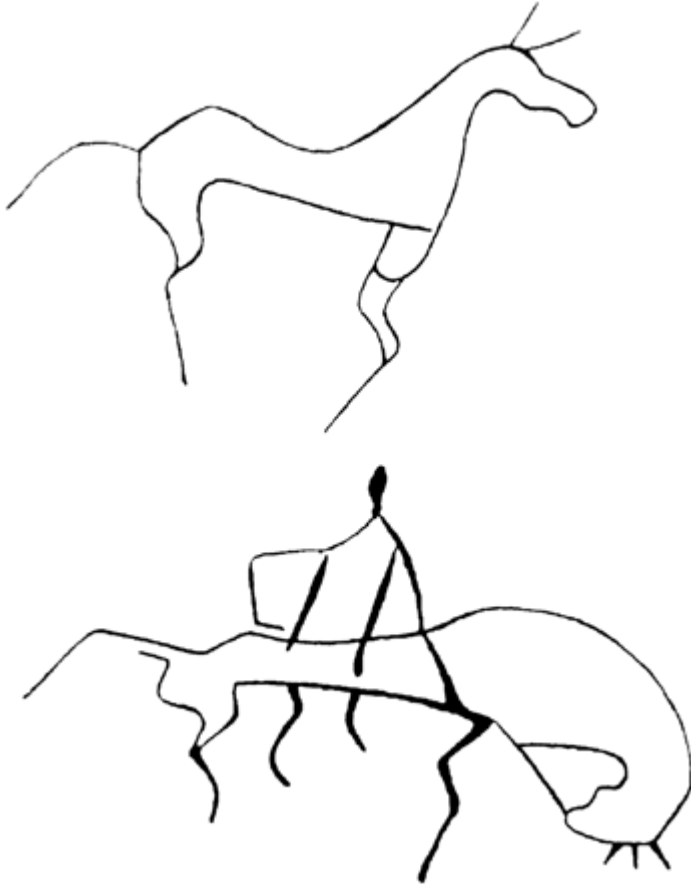


Figure 3.10 Petroglyph at Kamennaja Mogila, near Melitopol, southern Ukraine; after Häusler 1994, Abb. 17; courtesy Archaeolingua Foundation and Publishing House, Budapest.

Andronovo and Timber Grave (Srubnaya) cultures have published several dozen representations—some carved on rock, the others incised or painted on pottery—of

domesticated horses, but these are representations of horses drawing chariots.⁵² Although Gimbutas suggested a fourth-millennium date for a rider shown on a rock carving at Kamennaja Mogila, north of the Sea of Azov, others have assigned the same carving (Figure 3.10) to the latter part of the second millennium or even to the Iron Age.⁵³ Harold Barclay suggested that the earliest pictures of riders in all of the Eurasian steppe were probably those in rock carvings found in the Minusinsk Basin, at the headwaters of the Yenisei river and some fifteen hundred miles east of the Urals; on the assumption that these petroglyphs may have been carved in Andronovo times Barclay proposed for them a notional date in the middle of the second millennium.⁵⁴ Nikolai Bokovenko, a specialist on the archaeology of the Altai, would date the Minusinsk petroglyphs to the Tagar Culture rather than the Andronovo Culture, and so not much earlier than the eighth century BC.⁵⁵ Rock carvings are notoriously difficult to date, and in his survey of the early representations of riders in the Eurasian steppe Hančar was content to generalize that “keines der Dokumente geht über 1500 v. Chr. zurück.”⁵⁶

Even a date of *ca.* 1500 BC seems much too early for the first picture of a rider north of the Caucasus. Bokovenko has recently put the earliest such picture at the beginning of the first millennium,⁵⁷ and that may be correct. Several scholars—Jeannine Davis-Kimball, Marsha Levine and Andrzej Rozwadowski—who know far more about these things than I do were kind enough to answer my queries, and they too are of the opinion that the first rock carvings of riders in the steppe date from the early first millennium or possibly the very late second.⁵⁸ Evidence more secure than rock carvings are objects found in excavated sites and in that category Hančar concluded that the earliest dateable representation of a rider north of the Caucasus may be a tiny bronze figurine that surmounts a bronze pin.⁵⁹ The figurine, only 4 cm in height, was one of the grave-goods included in a burial at Koban, high on the northern slope of the Caucasus and near both to the sources of the Kuban river and to one of the major passes through the mountain chain. The cemetery to which this burial belonged was unearthed in the nineteenth century, when excavation standards were somewhat lax, and Hančar—one of whose specialties was the study of Kuban grave goods—could date the cemetery no more precisely than the period 1200–700 BC. Johannes Maringer’s broad survey of “Indo-European” representations of the horse came up with nothing from the steppe that was demonstrably earlier than the figurine in question.⁶⁰ Maringer likewise ascribed it to either the Late Bronze or Early Iron Age of the Kuban.⁶¹

Summing up our survey, we may say that the earliest direct evidence for horseback riding anywhere in the ancient world comes from the Near East, and dates shortly before 2000 BC. We may tentatively conclude that the unattended riding of horses—that is, the riding of a horse that was running loose, rather than being led by a pedestrian—began some time after 2500 BC. In the fourth and earlier third millennium daredevils in the Eurasian steppe may have occasionally shown off by trying to stay aboard an unconstrained horse, but *successful* riding was not yet possible. In the latter half of the third millennium BC success was finally achieved, and the kind of riding we see thereafter is what I have termed “athletic” or “recreational.” An important innovation may have been the strapping of a girth around the horse: the rider could grasp the girth with one hand, and could also insert his feet or knees between the girth and the horse’s belly. Where the vogue for athletic riding began is obviously unknown, but we may guess it was in a region where horses were commonly raised as food animals: eastern Europe,

the Eurasian steppe, or eastern Anatolia. But wherever the sport of riding was pioneered, it apparently was soon taken up by Near Easterners. The methods of riding probably spread with the horse itself through Anatolia, Syria and Mesopotamia. By 2000 BC the sport of riding had caught on throughout the Near East, and horses and riders had begun to be celebrated in both pictures and texts.

This athletic phase of horseback riding lasted for a very long time. In the time of Hammurabi, kings were still “showing off ” by riding a horse, although their advisers found the sport unbecoming to a king’s dignity. In the archives at Mari (which city Hammurabi destroyed shortly before his death in 1750 BC) French archaeologists found a letter that Bahdi-Lim, a major domo of the palace, had written to King Zimri-Lim. In his letter Bahdi-Lim urged His Majesty not to ride a horse when he made an appearance in the Akkadian cities to the south of Mari (Akkad was generally regarded as a more venerable and civilized area of Mesopotamia than the middle Euphrates valley in which Mari itself was located). “Drive in a chariot.” Bahdi-Lim advised, “**Or**, if you must ride, ride a mule. For only thus will you preserve the dignity of your royal position.”

[Si] tu es le roi des Hanéens,
tu es [aussi] secondement le roi de l’Accadien.
Que [mon seigneur] ne monte pas de chevaux,
que ce soit dans un char ou sur les mules seulement
que mon seigneur monte et qui’il honore
sa tête royale!⁶²

The reason for Bahdi-Lim’s advice, one suspects, is that although riding a horse would impress the inhabitants of Akkad with King Zimri-Lim’s fearlessness and athleticism, the act was in other ways unbecoming for a king. A king’s usual regalia would necessarily be set aside, especially if for reasons of safety he rode naked. And the backward seat and the inadequate means of control must also have prevented the rider from being the master of the beast: the horse-rider was essentially a passenger, capable only of giving his mount some vague direction and—usually, but not always—of bringing it to a stop. Noting that in the Late Bronze Age riders in the Near East continued to sit in the “donkey seat,” Littauer and Crouwel correctly generalized that “[d]espite the obvious practical advantages of riding—particularly once the horse had become common in the Near East—it took long for it to supersede the wheeled vehicle.”⁶³

It is in fact quite likely, I think, that although unattended and athletic riding was itself an important innovation in the late third millennium, its difficulties and discomforts were primarily responsible for the development of the chariot. As is well known, by Hammurabi’s time the two-wheeled chariot was beginning to show up on the roads of Mesopotamia and Syria.⁶⁴ This sophisticated vehicle, which weighed less than a hundred pounds, could be drawn at full speed by a team of horses. When the chariot first came into use in the Near East, probably in the twentieth century BC, each horse was controlled by a line attached to a nose-ring. Representations seem to indicate that by the eighteenth century BC the line and nose-ring had been superseded, and that chariot drivers were then holding reins that were attached to the cheekpieces of a bit.⁶⁵ What these early Near Eastern cheekpieces may have looked like is unknown, since *in corpore* examples from before 1500 BC have not yet been found in the Near East, but they are

likely to have been made of organic material (at Mycenae the cheekpieces found in Shaft Grave IV were made from bone). For some time after the chariot's introduction the vehicle was apparently used only for display, ritual, recreation, rapid transportation, and—eventually—hunting. For the latter purpose—undoubtedly feasible only after the adoption of either the bit or a noseband—it carried one or two men, one of whom was armed with a composite bow. The chariot's usefulness in the hunt eventually recommended it for use against men. Apparently the chariot was not employed in battle until *ca.* 1700 BC, but when the innovation occurred warfare was transformed.⁶⁶ The age of chariot warfare—*ca.* 1700 to *ca.* 1200 BC—coincides with the Late Bronze Age.

Where and when the first chariots were built has been much debated. During the 1970s no fewer than fourteen early chariot burials—each burial including horses and a spoke-wheeled cart as well as the body of the man who presumably had owned them—were found just east of the Urals, in what has come to be called the Sintashta-Petrovka cultural area.⁶⁷ Six of these burials were uncovered by Vladimir Gening at Sintashta itself, a village on the Sintashta river (a tributary of the Tobol).⁶⁸ In the early second millennium there was a large village at Sintashta, the inhabitants being evidently engaged in the kind of semi-nomadic pastoralism described in the preceding chapter. Initially Soviet archaeologists dated the Sintashta chariots *ca.* 1700–1500 BC, because of a few striking parallels with the Shaft Graves at Mycenae. In 1995, however, David Anthony and Nikolai Vinogradov arranged for the carbon dating of horse skulls found in yet another chariot burial, this one at Krivoe Ozero, some eighty miles north of Sintashta. Four carbon dates produced from the horse skulls at Krivoe Ozero yielded an average calibrated date of 2026 BC.⁶⁹ If the calibrated dates are taken at face value, these are the earliest chariots known. The Sintashta-Petrovka chariots have wheels with many spokes—between eight and twelve—and are too narrow to have held more than one man. They therefore differ significantly from the classic war chariot of the Near East during the Late Bronze Age, the war chariot having either six-spoke or four-spoke wheels and a platform wide enough for two men. Because of their peculiarities, the Sintashta-Petrovka vehicles are seen by Anthony and Vinogradov as “local improvisations representing an early phase in chariot evolution.”⁷⁰ Gening's own speculation was that the vehicles had been built in the first place to be deposited as grave gifts.⁷¹

The Krivoe Ozero burials also give us our first certain cheekpieces. These are disk-shaped, made from bone, and were found lying next to the horses' skulls. So it seems that in the Eurasian steppe, although not everywhere else, chariot horses were from the outset controlled by bits and bridles. Similar cheekpieces, some of bone and others of antler, have been found at other sites in the Sintashta-Petrovka zone, in the Pontic-Caspian steppe, and as far westward as the Hungarian plain. As Anthony and Vinogradov observe, the Krivoe Ozero cheekpieces “are decorated with incised, running spiral designs and are similar in form to those recovered at Mycenae.”⁷² The reference is to four bone objects from Shaft Grave IV at Mycenae, discovered by Heinrich Schliemann but not identified as cheekpieces until the counterparts from the Eurasian steppe were found. Although some specialists objected to identifying the four specimens from Mycenae as cheekpieces, it is now clear that that is what they were, and that they belong to the same tradition as those found at Krivoe Ozero and other places in the Eurasian steppe and Europe.⁷³ Because calibrated dates tend to be much higher than those based on ceramic chronologies or on dendrochronology, it may well be that the Krivoe Ozero burials will

eventually be down-dated from 2026 BC into the early second millennium. On the other hand, it is safe to say that cheekpieces and chariots must have been in use in northern Kazakhstan and southern Siberia well before 1700 BC, and well before they first appeared in Greece.⁷⁴

In south-central Anatolia a chariot is represented on a sealing from Level II in the *karum* at Kültepe, now dated to a 129-year period centered just after 2000 BC.⁷⁵ The horses on this and other early sealings are controlled by lines attached to nose-rings. Evidence for the chariot in Mesopotamia and Syria begins almost as early, here too the nose-ring being the means of control. We must therefore suppose, as Andrew Sherratt has noted, that it was in the Eurasian steppe that someone made the crucial innovation of controlling the chariot team with bridles, bits and reins.⁷⁶ As for the vehicle itself, Anthony has championed the Eurasian steppe as the place where the chariot was born, while Littauer and Crouwel believe that it originated in the Near East and that the Sintashta vehicles were local and somewhat inferior imitations of the Near Eastern chariot.⁷⁷ I do not intend to get into that argument here, and will note only that wherever the chariot was invented, it spread quickly: within a century and a half of its invention the chariot was in use in many language communities, and at places several thousand miles apart. By 1750 BC a Near Eastern king with even modest pretensions was eager to have at least one chariot in which to promenade.

The rapid diffusion and great success of the chariot must be considered in any discussion of the quality and purpose of horseback riding in the early second millennium BC. The chariot itself was an expensive and intricate artifact, and in order to purchase a chariot and a team of horses trained to pull it a wealthy man would have to give up a good part of his fortune. That chariots, despite their expense and fragility, were so quickly acquired over so wide a territory, and remained so prominent for so long, suggests that the riding of horses must have left a great deal to be desired. This was evidently just as true in the vicinity of Sintashta and elsewhere on the steppe as it was in the Near East. In short, the development of the chariot seems to have been a response to the limitations of horseback riding. Although late in the third millennium a venturesome young man was evidently "able" to ride a galloping horse, the act was both dangerous and uncomfortable. Having come to appreciate the speed of the horse, men must have been looking for a way to exploit it without having to bounce along on a horse's back while holding on to a cinch-belt. The spoked wheel offered that better way, and by the middle of the eighteenth century BC the chariot appears to have replaced the ridden horse as the preferred instrument of speed. For the next five hundred years the riding of horses, which had never been more than an occasional sport in the Near East, all but disappeared, as chariots retained their primacy until the end of the Bronze Age.

It is no surprise that when Near Easterners first began to ride horses they did so with some awkwardness. What is remarkable is that throughout the Near East and also in the Aegean world this primitive or athletic phase of horse-riding seems to have lasted not just for a few decades or even a few generations, but for a millennium. It also seems that, thanks to the popularity of the chariot, throughout the Near East horseback riding was far less celebrated in 1200 BC than it had been in 2000 BC. The brief flurry of figurines and reliefs of riders that we have noted in the late third and the very early second millennium soon ends, and such representations become very rare as the second millennium proceeds. Moorey noted that "the material record of horseriders in the Late Bronze Age in any

medium is sparse, particularly in terracotta. Even in Cyprus, where the repertory of baked clay figurines is well published, the rider is still a great rarity at the end of the Bronze Age.”⁷⁸ From the Near East outside of Egypt only two illustrations of horse riders—one on an unprovenanced seal and the other on a sealing from Tell Rimaah in northern Iraq—are cited by Littauer and Crouwel for all of the Late Bronze Age (*ca.* 1600–1200 BC). A handful of texts from that period refer to riders, and a tablet from Tell Leilan in Syria seems to have the honor of being the earliest known reference to a man on horseback in a military or quasi-military context.⁷⁹ From the few documents that may refer to riders we must apparently now delete those that were supposed to refer to the Hittite king riding a horse during one of the palace rituals.⁸⁰ As representations of riders virtually disappear, chariots become more and more conspicuous in both texts and pictures, and for every representation or mention of a ridden horse in the Late Bronze Age one can find several hundred of chariot horses.

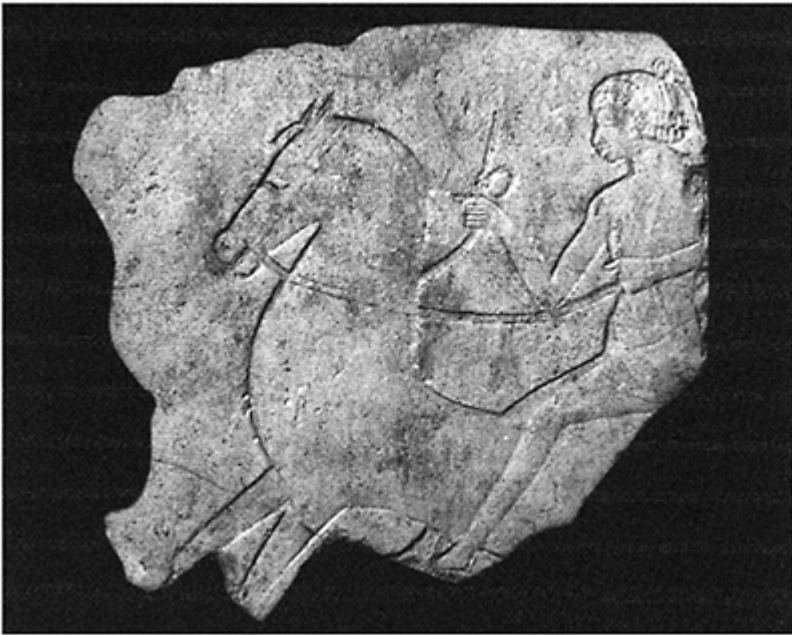


Figure 3.11 Egyptian limestone relief of rider, late Eighteenth Dynasty; courtesy National Museums of Scotland, Edinburgh (no. 1955.81).

Almost all of the Asiatics who are shown riding a horse in the Late Bronze Age appear in the reliefs of New Kingdom Egypt. Littauer and Crouwel observe that in these reliefs the Asiatic riders “with rare exceptions appear only as fugitive members of chariot crews, mounted on horses cut loose from their chariots, as their long, mailed charioteers’ tunics, which require them to sit sideways, indicate.”⁸¹ The Egyptians themselves are of course

shown riding by choice rather than by accident, although they do not appear to be much better horsemen than the Asiatics. As will be apparent from a glance at Figure 3.11,⁸² in the New Kingdom “Egyptian riders continue to use the ‘donkey seat,’ common in the preceding period, which indicates a still primitive stage of equitation.”⁸³ Even after 1200 BC Egyptians seem to have still favored the backward seat.⁸⁴ Saddles were not yet in use but control improved: in the Late Bronze Age ridden horses were no longer managed by nose-rings and lines. Because chariot crewmen needed to be able to mount a horse after their vehicle had broken down, or after one of their horses had been disabled, the training of a chariot horse included “breaking” the horse to accept a rider, and these horses were controlled either by nosebands (cavessons) or by bits and bridles. In Egypt and in Greece most chariot horses seem to have been controlled by means of reins attached to a noseband, which exerted pressure on the outside of the horse’s nose. Although effective for stopping a horse, the noseband would have been less satisfactory than the bit for directional control, and the so-called “Hyksos bits” may have been used in conjunction with nosebands to improve the driver’s lateral control of his team.⁸⁵ The controls designed for driving should also have made riding more secure, but that does not seem to have happened yet in the Late Bronze Age.

The same backward seat preferred by Asiatics and Egyptians in the Late Bronze Age may also have been the norm in Greece. In all of the Aegean world we find no representation of a man riding a horse until *ca.* 1300 BC.⁸⁶ The earliest such Mycenaean representation is a clay figurine found at Mycenae itself in an early LH IIIB context, and published by Sinclair Hood.⁸⁷ Three or four similar figurines have been postulated from fragments, but Hood’s “cavalryman” is the parade example of Mycenaean representations of riders.⁸⁸ From the thirteenth and twelfth centuries three Mycenaean and Sub-Mycenaean vase paintings have been found that seem to display riders, if we use that term rather loosely (in one of the paintings the “rider” is standing on a horse, and on the other two vases the riders have no legs).⁸⁹ The little evidence that we have suggests that in the Minoan and Mycenaean periods of Aegean prehistory riding was very infrequent and not done well.

More than sixty years ago Josef Wiesner concluded that in most of the ancient world the driving of horses preceded the riding of horses.⁹⁰ The precedence of “Fahren” over “Reiten” has been denied by various prehistorians,⁹¹ and in a literal sense Wiesner was undoubtedly wrong. Certainly horses had been ridden before the invention of the chariot, and we have seen that late in the third and early in the second millennium recreational or athletic riding enjoyed a small vogue. But useful riding came much later than useful driving. By the Ur III period a man could ride a running horse, but the kind of riding attested for the end of the third millennium BC was so limited that it could have had no practical application. One rode for sport and display, or perhaps even to carry a message rapidly from one place to another, but one could hardly have carried anything more cumbersome. We have no evidence that men were able to hunt on horseback in the second millennium BC, and it is difficult to imagine that the rider on a Mesopotamian plaque—his right hand grasping the stick with which to prod and guide his mount—could have handled a weapon of any sort. Not surprisingly, the voluminous textual evidence for the reign of Hammurabi never mentions riders in connection with warfare. In the Near East and the Aegean horses were of no military importance until the light chariot was

employed in battle, *ca.* 1700 BC. In India and China the warhorse, again drawing a chariot, came later still.

What are we to think about temperate Europe, for which we have no direct evidence at all for the riding of horses until the Iron Age? In 1971 T.G.E.Powell concluded that in the third and second millennia BC Europeans seldom if ever rode horseback: "In temperate Europe it would appear that the first true horse riding of any consequence began in the seventh century BC, perhaps already in the previous century, but certainly established in certain areas by the middle of the sixth century B.C."⁹² As was noted in the preceding chapter, horses as food animals were not uncommon in the villages of eastern and central Europe during the third millennium and they continued to be an alternative source of meat in the second millennium. By the middle of the second millennium chariots were in use in parts of temperate Europe, and thereafter European horses were either food animals or draft animals. But horseback riding seems to have been a later development. Although we may assume, as argued above, that athletic riding was known in Europe at least as early as it was known in the Near East, nothing found in the last thirty years seriously modifies Powell's generalization about "horse riding of any consequence." Renfrew has recently stated that the first representations of ridden horses in temperate Europe seem to be an engraving on a pot found at Sopron in Hungary, and a bronze figurine from Strettweg in Austria: the latter dates to the Halstatt C period, approximately the sixth century BC, while the pot belongs either to Halstatt C or D.⁹³

And what, finally, about the steppe? Most of our notions about steppe riders, I suspect, are to a lesser or greater degree derived from the theories of Marija Gimbutas, in which armed riders from the Pontic-Caspian steppe overrun and conquer much of eastern and central Europe.⁹⁴ Fifteen years ago, in a not very critical moment, I endorsed the widespread assumption that men on the Pontic-Caspian steppe were far ahead of men in the Near East in horsemanship, and declared that "by the end of the third millennium the riding of horses was apparently a common phenomenon on the open steppe."⁹⁵ I must now scale that down drastically, and say only that the kind of recreational riding seen in the Near East by 2100 BC had probably been seen on the steppe several generations earlier. Even that is only an inference, since we do not have any direct evidence for riding on the steppe at so early a date. We know only that at the end of the third millennium a few horses on the steppe were being trained to pull a chariot—a novelty and a rarity—and we may imagine that the invention of the chariot may have been preceded by a short stint of athletic riding. Possible evidence for riding on the steppe is the pair of cheekpieces found next to the skull of a horse buried at Komarovka, on the upper Volga.⁹⁶ Because a single horse rather than a team was interred alongside the human burial, it may well be that the horse was meant to be ridden. The date of the Komarovka burial is uncertain, but seems to fall within a century or two on either side of 1500 BC.⁹⁷ But the use of the horse for either riding or driving was at that time still uncommon on the steppe. Although horses increasingly served as draft animals during the second millennium, the main reason why the steppe dwellers continued to breed horses was to keep a supply of horsemeat available. The quantity of horse bones found in graves and in kitchen middens suggest that the great majority of horses being raised on the steppe in the second millennium BC were still being raised as food animals, as they had always been, the females as breeding stock and as milkers, and the males to be slaughtered and eaten as soon as they reached adulthood.⁹⁸ The men who founded Troy VI introduced horses to

north-western Anatolia, and so long as the city endured (ca. 1700–1225 BC) they used their horses not only to pull chariots but also to provide themselves with meat. Although the consumption of horsemeat in the steppe seems to have declined somewhat during the course of the second millennium, as lamb and mutton became more and more important in the steppe dwellers' diet, even at the end of the second millennium a fair number of horses were still being raised for meat.⁹⁹

In those parts of the ancient world for which we have evidence, riding was still awkward and tentative in the second millennium BC. Although it is theoretically possible that riding was much better in those areas from which no representations of early riders survive, it is also possible that the Gimbutas-Anthony thesis enjoys some support precisely *because* representations of early riders have not yet been found in temperate Europe and the Eurasian steppe. Even if, for the sake of the argument, one concedes that in the steppe the riding of horses may have been more accomplished than it was in the civilized world, I would insist that neither on the steppe nor anywhere else could men in the fourth, third or even second millennium BC have attained the level of riding needed for mounted combat.

Before we take up the thesis that men began riding off to battle far back in the neolithic period, some understanding of the nature of mounted warfare in antiquity is essential. It would not be inaccurate to say that in most periods of ancient history known from written records men on horseback were much less important in battle than men on the ground. In this regard, the later medieval period of Europe stands in contrast to the ancient world. Cavalry remained subordinate to infantry even under the early Carolingians, but during the reign of Charlemagne the balance shifted.¹⁰⁰ The adoption of iron stirrups in the eighth and ninth centuries brought mounted warfare into its Golden Age, which faded only with the proliferation of gunpowder in Europe and the Middle East.¹⁰¹

The story was quite different in antiquity. In most of the battles described in our ancient histories, from the end of the Bronze Age until the collapse of the Roman empire in western Europe, men on foot bore the brunt of the fighting and determined the outcome. Of course there were periods in which mounted forces had profound historical consequences. In the victories of Alexander his cavalry may have been decisive, and for the next hundred years cavalry was important in Hellenistic warfare. The Seleukids especially had to maintain a strong cavalry, because some of their enemies—the Bactrians, for example—depended primarily upon horsemen.¹⁰² The Numidian horsemen who came to Italy with Hannibal played an important role in his early success. The most notorious victory of horsemen over infantrymen was won in the desert near Carrhae (Harran) in Syria in 53 BC, when 10,000 Parthian mounted archers, commanded by Surenas, surrounded and annihilated the infantry—35,000 strong—of M. Licinius Crassus.¹⁰³ In the third century Gothic and Arabic raiders on horseback began to terrorize communities across the frontiers of Rome's faltering empire, and on 9 August of 378, in an open field near Adrianople, Fritigern's mounted archers disrupted Valens' battle line and opened the way for the Visigoths to destroy the army of the eastern Roman empire.¹⁰⁴ And the last chapters of this book will explore an earlier and more obscure period in which horsemen seem to have dominated the battlefield. But these periods and these battles were the exceptions that proved the rule. The Greek hoplite phalanxes and the

Roman legions were infantry units, and although they were accompanied by small troops of horsemen it was almost always the infantry that won or lost the day.

How, specifically, did men on horseback fight in antiquity? From written accounts and artistic representations we know that in the first millennium BC the “Skythians” on the Pontic-Caspian steppe and the inhabitants of western Iran were adept at drawing their bows and shooting their arrows with accuracy while riding at a gallop. With his arrows an Iranian or Skythian warrior tried to wound or disable an opponent, whether on the ground or mounted. Once the Skythian had hit his opponent and toppled him from his horse, he sprang to the ground, scalped his victim with a dagger or knife, and drank some of his blood (the scalps, as was also the custom among Native Americans, were saved and displayed as trophies by the Skythian warrior).¹⁰⁵ Unlike organized warfare, such conflict was personal and “heroic,” an opportunity for the individual warrior to display his valor and prowess. The horsemen were evidently on their own, each of them trying to excel, and until late in Skythian history were not constituents of a unit or a formation. It is likely that no highly articulated chain of command was necessary.¹⁰⁶ Nevertheless, although Skythian warfare seems to have been primitive, the level of horsemanship required for such combat was very high. In order to shoot while riding a horse at the gallop a man had to be able to control his horse without using his hands. Remarkable physical coordination and dexterity were needed, as well as complete confidence that the horse would respond to whatever signals the rider communicated through his legs, his pelvic bones, his shifting of weight, and his voice. We have numerous representations showing Iron Age riders in complete control of their mounts, but none at all showing that anyone rode with the necessary confidence in the Bronze Age, to say nothing of the neolithic period.

Although mounted archers appeared first among the “barbarians,” they were soon attached to organized armies, in which hundreds or even thousands would ride together as a light cavalry. Assyrian armies from the ninth century onward included such horsemen. Initially the Assyrian archers appear to have been less expert than their barbarian opponents, but by the seventh century they had significantly improved. As we shall see, Median and early Persian armies depended heavily on mounted archers, and Herodotos (1.136) knew the maxim that every Persian boy was taught to tell the truth, to ride, and to shoot with a bow. Light cavalry continued to play an important role in the armies of the Parthian Arsacids and then of the Sassanids. The arid and semi-arid environment of Iran, as later of Arabia, encouraged the use of horses: when watering places are thirty or forty miles apart, they can be reached much more easily by horsemen than by men on foot.¹⁰⁷ Shooting an arrow from the back of a running horse was a difficult skill, and one that the classical Greeks and Romans never mastered. When the Athenians needed the services of mounted archers—*ἰπποτοξόται*—they recruited barbarians from the Pontic steppe for the task.¹⁰⁸

An easier project for a man on horseback was to ride down and kill an enemy on foot who was either in flight or had otherwise become separated from his infantry formation. In attacking these isolated opponents the horsemen, usually without shields but wearing protective armor, might use javelins at medium range and thrusting spears (lances) at close range. Horsemen engaged in this form of pursuit would normally function in small groups, in pairs, or as individuals. Pursuit was part of the “mop-up” of a battle, and so was of marginal importance in ancient warfare. It is attested in the Near East as early as the ninth century BC, but not before that date, and was very familiar to the classical

Greeks and Romans. The *hippeis* in Archaic and Classical Greece and the *equites* of the Early Roman Republic were wealthy landowners, who brought their horses to battle and in the late stages of a victory could ride down enemy footsoldiers who were in flight. These were the horsemen for whom Xenophon wrote his *Peri Hippikes* and his *Hipparchikos*. The havoc that the Syracusan horse wrought against the Athenian foot soldiers in 413 BC was exceptional, as the Athenians were strung out and straggling over several miles. Most of the classical city-states employed relatively small numbers of horsemen. During the Persian Wars the Athenians seem to have had only 96 horsemen, in contrast to the 10,000 hoplites whom they put on the field at Marathon. The Spartans, whose fame depended squarely on their hoplite phalanx, apparently did not enroll horsemen at all until the Peloponnesian War, when Athenian raids on the Peloponnesian coast required the Spartans to establish a “quick response” force.¹⁰⁹ In the Roman armies of the Early and the Middle Republic the legionaries outnumbered the *equites* by ten to one.

An aspect of mounted warfare far more important than pursuit by individual horsemen was the charge. Because the charge was effective only if executed by a *unit*, it is properly called a cavalry action, and more precisely a shock cavalry action.¹¹⁰ The cavalry charge is also the most misunderstood aspect of mounted combat in antiquity. As John Keegan has shown, how the cavalry charge worked and how it did not work depended much more on psychology, of both men and beasts, than on physical factors.¹¹¹ Our words “attack” and “aggression” have etymologies connected with “advancing” or “drawing near,” and in ancient warfare the charge was an essential part of aggression. Fear is the normal reaction to aggression, and the more rapid and massive the attack, the more frightening it is. The horse, which is both large and fast, was therefore an ideal animal for an aggressor, although the horses themselves were not aggressors: with their herd instinct, the horses were simply following the lead horse, determined not to be left behind. For their riders, however, the shock cavalry action was the ultimate act of aggression. The horseman held the reins in one hand and in the other wielded a thrusting spear, a sword (or cutlass), a battle-axe, or some other weapon for hand-to-hand combat. Even a brave infantryman would have been frightened by the sight of a company of riders galloping directly toward him with their swords drawn or their spears at the ready. In theory, then, the cavalry charge was a supremely effective means of turning infantrymen to flight.

From the foregoing description of shock cavalry one might conclude that it must have been a devastating force in all of ancient warfare. That would be an erroneous conclusion, however. I shall argue in Chapters 5 and 6 that shock cavalry may have been used as early as the eighth century BC, but it is nevertheless true that we have no description of a shock cavalry attack before the fifth century BC. And over the next thousand years of Greek and Roman history we know of only a few battles (most of them involving Alexander the Great and his near successors) in which shock cavalry played the decisive role. This is because the Greeks and Romans knew that horses—unlike men—cannot be made to charge against a stationary line, whether the line is made up of men or of other horses. As Keegan has reminded us, the experience of cavalries from ancient times to the nineteenth century indicates that infantrymen who were well formed up, and who resolutely stood their ground, would have suffered few casualties at the hands of shock cavalry, because the cavalry horses would have slowed and eventually come to a stop before running into a close-order formation of infantrymen. And once their horses had

come to a stop, the cavalrymen were no longer on the attack and instead had suddenly to begin defending themselves. Ancient cavalrymen were at a special disadvantage. Unlike the armored knight of the Middle Ages, who could brace himself in his stirrups and who rode a horse that weighed more than 1500 pounds, the ancient rider had no physical advantage over an opponent on the ground. His horse was relatively small, and Xenophon makes it quite clear that the ancient rider was insecure in his seat, ever mindful that even if he were able to parry the spear thrust by a man on the ground he might well, in the parrying, be knocked off his horse. Also worrisome to the rider was the likelihood of losing his balance if he thrust his own spear or swung his sword with too much force. In hand-to-hand combat between a single *hippeus* and a single infantryman, the odds were therefore in favor of the man on the ground. And if a troop of cavalry lancers found itself engaged in stationary fighting with a hoplite phalanx, the cavalry troop was certain to get far the worst of it. A Greek phalanx or a Roman legion seldom had to worry about a charge by a shock cavalry.

Against this survey of the various forms of mounted warfare attested in antiquity, all of them known from the Iron Age and not before, let us look at Gimbutas' *kurgan* theory. In her last formulation of the theory,¹¹² men were riding in battle already in the fifth millennium: "By 5000 BC or perhaps earlier, domestication could have taken place, and clearly by 4500 BC, large scale herding of horses had occurred." Although it may first have been used as a food animal, and then as a draft animal, "the horse began to have its greatest impact on human society when the Kurgan peoples made another innovation: around 4500 BC they learned to ride the horse. At this time, bridle equipment (cheek-pieces made from antler) appears at the site of Dereivka, on the lower Dnieper, and many other sites."¹¹³ Horseback riding enabled the steppe-dwellers to travel five or six times as far in a day as had previously been possible, but the revolution in travel was less important than the revolution in warfare:

As important as the horse was to increased communications, even more important was the impact of the horse on raiding and warfare. A well-equipped warrior on the ground is formidable enough, but on horseback he undoubtedly became a terrifying opponent. Many of the weapons found in Kurgan graves are those that could be carried on horseback: the spear, dagger, and particularly the bow and quiver with arrows. The horse allowed the warring way of life to be carried great distances. The warrior mounted on horseback could sweep out of the plains with no warning, attack, and then ride back into the steppes. The pattern we see in historical times, when groups like the Scythians, Sarmatians, the Huns, and later the Mongols, scourged the steppes, apparently started with the Kurgans in these prehistoric times. Although the Kurgan pastoralists were of a lower cultural level than cultures of the Middle East and Europe of the same time, their use of the horse would give them an impact on western civilization that would last until the present day. With the horse, these belligerent peoples could spread their way of life across large regions of Europe and Asia.¹¹⁴

This picture of mounted warriors from the steppe, overwhelming men on foot and overrunning much of Asia and Europe in the fifth and fourth millennia BC, is vivid but entirely fanciful. There has never been any evidence to support it (as mentioned above, mounted archers appear first in the ninth century BC and shock cavalry actions are not attested by our literary sources until the fifth), and there has always been strong evidence that the picture was wrong. After even a brief study of ancient military history one will find it impossible to imagine that any neolithic warrior, no matter how well equipped, was on horseback a terrifying opponent to a man on the ground.

Although the passage cited above comes from Gimbutas' last presentation of her "Kurgan theory," already by the middle of the 1960s the warrior on horseback played a prominent role in her reconstruction,¹¹⁵ in large part because of what had been found at Dereivka (attracted by Telegin's preliminary reports, Gimbutas visited the site in 1965 and 1968). The belief that armed riders were attacking horseless people far back in prehistoric times is therefore conspicuously associated with Gimbutas and her school of Indo-European archaeology, but it has now been adopted by scholars who have little interest in the Kurgan theory of Indo-European origins. It is central to the thesis of R.L.O'Connell's *Ride of the Second Horseman: The Birth and Death of War*, and it has even enjoyed some credibility among hippologists. Bökönyi, although never enthusiastic about the possibility that warlike and PIE-speaking *kurgan* tribes overran Europe in the fifth and fourth millennia, nevertheless supposed that men were at that time going to war on horseback.¹¹⁶ Azzaroli concluded that "when the art of riding was in its infancy in the Middle East, barbarian riders had already developed a remarkable skill in handling the bow from horseback."¹¹⁷ Anthony, who clearly distanced himself from most of the Kurgan theory, likewise embraced the concept of armed riders dominating their neighbors in neolithic and chalcolithic times:

The beginning of horseback riding at about 4000 BC represented the first major innovation in land transport technology. Horses doubled or tripled the distance that humans could travel per day, while increasing the speed of movement by approximately the same factor. Resources, markets, allies, and enemies that had previously been beyond effective reach became reachable. The Central Asian grasslands, previously a hostile barrier to human settlement, became a potential conduit for trans-Eurasian communication and trade. Sedentary communities that lacked horses became vulnerable to attack because riders could appear suddenly and (most importantly) could retreat faster than any pursuing pedestrian party could follow.¹¹⁸

For a more detailed picture of the steppe warriors of the fourth millennium one may go to the recent description by Jan Lichardus and Marion Lichardus-Itten. Here the *Reiterkriegertum* that most scholars suppose to have arisen only in the late second or the first millennium BC is retrojected to the third and even the fourth.¹¹⁹ After pointing out that a stone stela found at Novosvobodnaja, a Pit-Grave site, displays around its border animals that may very well be horses, the authors note that another stela from the same site displays weapons which would have been effective if wielded by a man on horseback: the battle axe, the composite bow, and the lance.¹²⁰ The presence of warrior-

riders in the third millennium BC is therefore deemed to be certain: “Den bewaffneten Reiter kann man anhand der Grabplatten aus Novosvobodnaja für das 3. Jahrtausend (Periode 2) sicher nachweisen.”¹²¹ Having established the presence of warrior-riders in the third millennium, the authors go on to find evidence for them already in the fourth: because representations of the lance and battle axe have also been found on the steppe in fourth-millennium contexts, we can conclude “dass schon im 4. Jahrtausend das Pferd nicht nur geritten, sondern auch bei kriegerischen Auseinandersetzungen entsprechend eingesetzt wurde.”¹²²

All these reconstructions of mounted warfare in the neolithic period and the Bronze Age will need to be radically revised, I believe, should archaeologists in Ukraine, Russia or Kazakhstan ever find—as their counterparts in the Near East have done—securely dated Bronze Age representations of a man showing off his ability to ride a horse. As noted above, the earliest representation of a rider north of the Caucasus may be the figurine from Koban, dated to the end of the second millennium.¹²³ Horses and riders appear so frequently and prominently in Skythian art that it is easy to assume that the Pontic-Caspian steppe had “always” been dominated by men on horseback. But the Skythian art—the breathtaking gold figurines, jewelry, plaques, and goblets, so many of them showing horses and riders—comes from tombs dated between 600 and 300 BC,¹²⁴ and no gold horsemen from the second millennium have been found.

What we are dealing with here is something more than a negative *argumentum e silentio*. Colin Renfrew has made the excellent argument that in the Bronze Age mounted warriors could not yet have been part of the “cognitive constellations” of either Asians or Europeans.¹²⁵ In the absence of written texts, that is, artistic representations and the material recovered from burials are our only indicators of what was most prized at the time. A generalization can therefore be made that in the second millennium the horse-drawn chariot enjoyed some prestige in the Pontic-Caspian steppe. This is evidenced most clearly by the Sintashta-Petrovka chariot burials. Although the practice of burying chariots was short-lived on the steppe, representations of chariots were incised on pots or stelae found in Andronovo and Timber Grave burials, and in rock carvings at a dozen sites.¹²⁶ On the other hand, armed riding (or indeed horseback riding for any purpose) was not yet celebrated by steppe artists.

On this point, as Renfrew notes, the first millennium BC presents a complete contrast with what had gone before. In the civilized world the first millennium BC gives us literally thousands of representations of riders—figurines, sealings, reliefs, paintings—along with texts that range from brief mentions of riders to entire manuals devoted to the art of riding. From the steppe come the well-known “Skythian” representations. Even more vivid evidence of the riding horse’s prestige on the steppe in the first millennium BC is the burial of riding horses and riding gear, so as to be available for the deceased in the afterlife. The twenty or so bits from the second millennium BC must be contrasted with the hundreds that have been found in early Iron Age burials.¹²⁷ The riding horses and their trappings found in the frozen earth at Arzhan and Pazyryk, north of the Altai mountains, were buried in the second and third quarters of the first millennium BC. In China horseback riding did not displace chariotry until the fourth century BC, but once established it became a high priority for the emperors and their officers, with cavalries during the Ch’in and Han Dynasties apparently numbered in the tens of thousands.¹²⁸ How important the ridden horse had become in China by the late third century BC was

vividly demonstrated in 1976, when Chinese archaeologists discovered the many life-size terracotta models of riders and their saddled mounts that had been put in the tomb of Emperor Ch'in Shih-huang-ti.¹²⁹ Burials of riding horses were also common in the Pontic-Caspian steppe: archaeologists have found hundreds of horse skeletons in burial contexts, just a fraction of the thousands of horses that first-millennium steppe dwellers sacrificed. Herodotos 4.72 describes how a Skythian king went to the underworld accompanied by fifty horses, permanently riding round the dead monarch in a wide circle: the horses were impaled on fifty stakes, and each horse bore a strangled rider, the riders also having been fixed in an upright position atop their dead mounts. This is how people in the Eurasian steppe showed their appreciation of the ridden horse in the Iron Age. In contrast, the total absence of riding horses in graves of the second millennium BC (or of any rider-representation earlier than the Koban figurine) is a strong argument that until the Iron Age the steppe dwellers did not regard riding as important for their way of life. Undoubtedly, from the late third millennium onward it must have been possible to see, now and then, a demonstration of athletic riding in the steppe, just as one could have seen it in the Near East. But the massive change in the material record between the second millennium and the first makes it quite clear that in the steppe, as elsewhere, *serious* riding began after the Bronze Age ended. Until that happened, the importance of horses on the steppe was to a small extent based on their utility as pack or draft animals, and to a great extent on their provision of mare's milk and horsemeat.

Logic itself is hardly compatible with the theory that for two thousand years men in the Pontic-Caspian steppe had been riding off to war while people south of the Caucasus trudged around on foot. In other ways, surely, life in the cities and palaces of the Near East was not inferior to life in the steppe villages. Undoubtedly the steppe dwellers occasionally came up with innovations that were useful, desirable, or even revolutionary, but if so the innovations are likely to have been very soon appreciated and appropriated by people in the Near East. As noted in Chapter 2, wherever it was that wheeled vehicles were invented, *ca.* 3500 BC, within two hundred years they were in use from northern Europe to southern Mesopotamia. And we have seen how quickly the spoke-wheeled, horse-drawn chariot was diffused over much of western Eurasia: by 1800 BC, and so again within two hundred years of its invention, men were driving chariots in communities from Syria to southern Siberia. The use of the bit and bridle for draft-horses seems likewise to have been adopted in the Near East not long after its appearance in the Eurasian steppe. The Black Sea and the Caucasus were not an Iron Curtain.

Anatolia especially was in close enough contact with the steppe that any obviously superior technique in use in the north should within a fairly short time have made its way south of the Caucasus. One of Gimbutas' valuable contributions was her comparison of the great Maikop burial and the "royal" burials at Alaca Hüyük in central Anatolia: parallels at the two sites point to significant contact between Anatolia and the Maikop culture in the late third millennium BC.¹³⁰ At the northwestern corner of Anatolia, the citadel of Troy grew wealthy from the trade that moved through the Dardanelles. That people on the western and northern shores of the Black Sea would or could have kept their riding techniques a secret from the traders is an impossible notion. Gimbutas herself, oddly, believed that contact between the steppe and what lay to the south was far more substantial than anything I have suggested. Her theory maintained that from the late fifth to the early third millennium waves of PIE-speaking and horse-riding "Kurganites"

swept from the steppe into Anatolia and Greece, coming to stay, and in numbers sufficient to transplant their Indo-European languages into the lands they conquered. If her theory had been more coherent, it would necessarily have held that after the invasions Greece and Anatolia were characterized by the same high level of riding that had hitherto characterized the steppes (the scarcity of horse bones in third-millennium Anatolia, and their complete absence in Early Bronze Age Greece, would of course have made any such argument difficult to make). In any case, the Pontic-Caspian steppe was in close enough contact with the Near East that one can hardly posit two entirely different levels of riding in the two areas: the steppe dwellers at the advanced level, brandishing weapons while sitting forward on their horses and controlling them with bridles, bits and reins, while the Near Easterner remained mired at the elementary level for millennia, sitting awkwardly on his horse's hips, and trying to control his mount by means of a noseband or, still worse, by a nose-ring and a stick.

Finally, it is pertinent that the evolution of horsemanship from display and recreation to war was accomplished *with the chariot*. This evolution took place over about three hundred years. Can we believe that *ca.* 2000 BC, when the chariot was in its infancy, the steppe dwellers were already riding their horses to war, shooting arrows at each other from horseback; and that it took three hundred years before it occurred to Near Easterners that the same sort of warfare could be conducted from the platforms of chariots? There is good reason to think that horsemanship north of the Caucasus *ca.* 2000 BC was not appreciably better than horsemanship in the Near East at that time, and that in the steppe and in Europe, just as in Greece and the Near East, riding continued to be a challenge all through the second millennium.

4 CONTROL

From the Late Bronze Age of the Near East, Egypt and the Aegean we have plenty of evidence, both textual and pictorial, to be quite certain what was important to the kings who dominated those areas. Until the destructions *ca.* 1200 BC the highest priority for a ruler—whether a Great King or one of his vassals—was his chariot force. This included the vehicles themselves, the drivers and archers who manned them, and the specially trained horses that drew the chariots. On the other hand, the copious evidence for the Late Bronze Age shows clearly enough that riders were not yet of any military significance. As indicated in Chapter 3, representations of (and references to) riders are rare in the Middle Bronze Age but become rarer still in the Late Bronze Age. And in both periods the few men who did ride tended to seat themselves over their horses' loins, without saddle or saddle-cloth.

The sacking of cities and palaces that brought an end to the Late Bronze Age was followed by three centuries for which we have almost no evidence. When evidence resumes, riding was considerably more conspicuous in the Near East than it had been in the Bronze Age. Quantitative, although circumstantial, evidence is supplied by votive figurines of "cavaliers," those bizarre riders whose arms are wrapped around their mounts' necks. As Roger Moorey has noted, the first flurry of such figurines came *ca.* 2000 BC, but only a handful have been found in Late Bronze Age levels. Then, in the early first millennium, and especially from the eighth century through the sixth, there is an explosion of the "cavaliers," archaeologists finding hundreds if not thousands, many of which have not yet been published. If, as was suggested in Chapter 3, these figurines were meant to secure divine protection for riders, the explosion in their numbers in the eighth century BC must mean that in the Near East riding was then becoming a routine activity.¹ The first reference to a rider in the Assyrian army comes from the year 886 BC, in the reign of Tukulti-Ninurta II, and in succeeding reigns such references become progressively more numerous.²

The competence of riders was also remarkably improved. Reliefs from the palace that Ashurnasirpai II (883–859 BC) built at Kalhu—modern Nimrud—and from the bronze gates that Shalmaneser III (858–824 BC) set up at nearby Balawat show both Assyrian and enemy mounted archers. The horses are not saddled but do wear saddle-cloths, and although the Assyrians' horses may wear nosebands the horses of the enemy are controlled by bits. The Assyrian horsemen in the Balawat relief (see Figure 4.1) are riding "short" (that is, they have their knees drawn up and are pressing them against their mounts) and still sit too far back, but the archer is nevertheless able while riding to shoot an arrow at an enemy straight ahead of him. A mounted companion seems to hold the reins of both his own and the archer's horse. More impressive than the Assyrians is the enemy horseman in Ashurnasirpal's relief (Figure 4.2). He sits close behind his mount's withers, atop a saddle cloth that is secured by a girth as well as by breast and breech

straps, and as he rides is able to twist and shoot an arrow back at the pursuing chariot.³ By the early ninth century, in other words, in at least parts of the Near East some men were able to ride to battle. And the enemies of the Assyrians—who, we shall see, almost certainly lived to the east and the north of Assyria—were able to control their horses without using their hands. This is a far higher level of horsemanship than anything attested for the Bronze Age.

But in Mesopotamia the new skills were evidently not yet well established in the reign of Ashurnasirpal, who still preferred to put his archers in chariots, or even of Shalmaneser III, if we may judge from the seats of the Assyrian riders in the Balawat relief. Now it may well be that Shalmaneser's horsemen were better than that, and that the artists have misrepresented them. In that case, however, one would have to concede that in the reign of Shalmaneser III no artistic tradition of representing good horsemanship had yet been established. I think we may conclude that in the ninth century good riding was still a novelty in the Near East, even for the court of the Assyrian king. Not until the reign of Tiglath-Pileser III (745–727 BC) do the royal reliefs consistently show Assyrians riding in a manner that Xenophon or Cyrus the Younger would have approved. The evolution of horsemanship visible on Assyrian reliefs was summarized by J.K.Anderson: "There is a marked difference between the riders of the ninth century and those of the eighth; still more those of the seventh. The earliest are crouched awkwardly



Figure 4.1 Bronze relief of Assyrian riders, Balawat Gates, Shalmaneser III, 858–824 BC; Brit. Mus. 124657; courtesy British Museum, London.

on their horses' backs, with thighs horizontal and lower legs gripping their horses' sides instead of hanging free. They lack confidence in their power to control their horses."⁴ Through the eighth century BC a few Near Eastern kings, apparently including the kings of Israel, still preferred to put their archers in chariots rather than on horseback. When Sargon II (721–705 BC) took Samaria he enrolled the charioteers whom he captured in a

“Samaritan” unit of fifty (or possibly two hundred) chariots.⁵ By the end of the eighth century BC the Assyrians themselves had many times more cavalry than chariotry,⁶ and after the death of Sargon II the Assyrians seem to have relegated chariots to a ceremonial role.



Figure 4.2 Stone relief of barbarian riders, from Kalhu palace of Ashurnasirpal II, 883–859 BC; Brit. Mus. 124559; courtesy British Museum, London.

A handful of representations of competent riding may be earlier than the Kalhu reliefs. Carved on four orthostats (stelai) found at Zincirli, close to the westernmost Syro-Turkish border, are riders who sit forward on their mounts. Zincirli was excavated by F.von Luschan in the 1890s and early 1900s, and the many orthostats that he found seem to have been set up over a period of two or three hundred years. Two of the orthostats depicting riders probably were carved after 800 BC, but the other two (Zincirli A/3 and K/4) seem to date to the ninth or possibly even the late tenth century BC.⁷ Both orthostats are basalt, and stand 1.30 m high. In neither relief does the rider appear to be armed, but both riders are seated just behind the withers and both control their horses with bit and bridle. Another early representation of a rider was found on an orthostat at Tell Halaf, on the Habur river. This site was dug by Baron M.von Oppenheim from 1911 to 1913, and von Oppenheim took many of the orthostats to Germany, where they were displayed in the Vorderasiatische Museum in Berlin. In his publication of materials from that museum Gerhard Meyer suggested a date *ca.* 900 BC for the Halaf rider. This man too has a forward seat, and unlike the Zincirli riders he is apparently armed and certainly carries a small round shield.⁸ The arms indicate that for him the act of riding was itself not a

challenge. The Tell Halaf relief stood in an array of orthostats set up by a certain Kapara, who ruled Halaf before the Assyrians conquered it, and who may have lived in the early ninth century. However, because Kapara seems to have re-used some orthostats from earlier structures, the rider relief could date from the tenth century. If it does, it is the earliest Near Eastern representation of a man riding “correctly” and riding to battle.

Also of interest is a small limestone altar from Gordion, decorated with a relief of a rider shooting a bow at an animal. The rider sits rather far back on his mount, and no controls can be discerned, but his ability to shoot the bow while he rides is noteworthy. In his study of Phrygian plastic art Friedhelm Prayon dated the altar to the end of the Early Phrygian period, which in absolute terms has been placed *ca.* 700 BC.⁹ New evidence on the destruction at Gordion would raise the dates for “Early Phrygian” by at least a century,¹⁰ and so at this point we must say only that the Gordion rider relief dates no later than the eighth century BC and possibly was carved in the ninth. On another find from Gordion, also dated by Prayon to the “Early Phrygian” period, the riding is less impressive.¹¹ On this badly damaged ivory plaque two galloping horses were displayed, and presumably two riders, although one rider has disappeared entirely and of the other only the legs are left. These horses were controlled by nosebands, and his legs show that the rider was sitting back, almost on his horse’s croup. Evidently riding was more frequent in Iron Age Gordion than it had been in Bronze Age Anatolia, but some of the primitive features of Bronze Age riding seem to have persisted well into the first millennium BC.

In summary, the pictorial evidence shows that secure riding, a prerequisite if the rider is to concentrate his attention on his weapons and his opponents, was seen in parts of the Near East by the first half of the ninth century BC, and here and there may have been seen as early as the tenth. But it was not until the middle of the eighth century that Assyrian riders regularly appear in the forward seat. The improvement in Near Eastern horsemanship apparently occurred over several generations, perhaps beginning in the late tenth century and certainly continuing through much of the eighth.¹²

This is some two hundred years later than I once supposed. When writing about the demise of chariot warfare I did not yet appreciate how deficient the art of riding was in the Bronze Age, and how long beyond the Bronze Age the deficiency continued. I therefore made the unhelpful suggestion that in the Near East mounted horsemen may have been used on the battlefield already in the twelfth century BC.¹³ That now seems much too early. As the preceding chapter has shown, we have no evidence that in the Bronze Age anyone—whether in the chariot kingdoms of Greece and the Near East, or in the Eurasian steppe, where chariots were less in evidence—was yet riding well enough to handle weapons on a horse. And in many places poor riding or no riding at all—was still the norm well into the first millennium. Because so little evidence, whether pictorial or textual, has survived from the early Iron Age no generalization can be made with much confidence. What evidence we have, however, makes it difficult to imagine that men anywhere in the Near East rode into battle before the late tenth century BC. They were undoubtedly anticipated in this by men in Iran and on the steppe, but even in these places it is unlikely that good horsemanship was in evidence before the end of the second millennium BC.¹⁴

Not everyone would agree with that conclusion. The justification for the present book is that a significant minority of reputable specialists—anthropologists, archaeologists,

Indo-Europeanists, and even hippologists—have believed that good riding, or at least competent riding, began a very long time before the end of the Near Eastern Bronze Age. In this view, if Near Eastern horsemanship did dramatically improve from the tenth century to the eighth the improvement was only a regional phenomenon, as Near Easterners finally mastered an art that elsewhere had been familiar for millennia. The Gimbutas tradition in Indo-European archaeology has consistently held that on the Pontic-Caspian steppe armed riders began threatening their non-riding neighbors as early as the fifth millennium BC. On the basis of the excavations at Dereivka other scholars—Telegin and Anthony especially—have placed the beginnings of competent riding not much later: *ca.* 4000 BC. I have argued in Chapter 2 that the Dereivka excavations provide no evidence that the steppe dwellers were riding horses in the fifth or fourth millennium BC. In neolithic economies on the steppe the horse was a food animal, and if it eventually provided a “secondary product” that product was for a long time its service as a pack animal.

Some specialists who not only have distanced themselves from Gimbutas’ Kurgan theory but also are in disagreement with Telegin’s and Anthony’s interpretation of Dereivka nevertheless suppose that military riding began long before the Iron Age. At a conference devoted to “Die Indogermanen und das Pferd,” held in Berlin in 1992, Stefan Zimmer disputed Gimbutas’ and Anthony’s reconstructions and proposed instead (although somewhat tentatively) that mounted combat may have begun in the third millennium BC, as riders from the steppe invaded Europe and brought their Proto-Indo-European language with them. Zimmer suggested, that is, that in the third millennium PIE-speaking riders may have been prehistoric precursors of the Skythians, Huns, Mongolians and others whose skill on horseback made possible their depredations in historical times.¹⁵

At the same Berlin conference but with considerably more emphasis Hans-Georg Hüttel, who has produced the definitive catalog and study of bridle bits used in Bronze Age Europe, argued that armed riders became a historical factor before the middle of the second millennium BC.¹⁶ In the lands along the middle Danube various kinds of organic cheekpieces appear suddenly in seventeenth- and sixteenth-century contexts. Although he explained the disk- and plate-shaped pieces as controls for chariot horses, Hüttel argued that the *Stangenknebel* (antler tine cheekpieces) would have been inadequate for controlling chariot horses, and must therefore have been used by riders. By *ca.* 1600 BC, he proposed, men in western Romania and eastern Hungary had begun to fight on horseback, using battle-axes and slashing swords. From the Danube the “militarizing of riding” spread (although not very quickly) to the Eurasian steppe. In this view, although much good riding was done in the Bronze Age, it was not depicted artistically because it was less prestigious than chariot driving, and the elite preferred to be shown only on chariots. Riding, on the other hand, was egalitarian, and over the second half of the second millennium BC a *Reiterkriegertum* spread from the Danube through the Eurasian steppe.¹⁷ In Hüttel’s view Greeks and Near Easterners were late in learning how to ride properly, and finally did so in the eighth and seventh centuries only because by that time steppe invaders were becoming a problem, especially for the kings of Assyria. The riding tactics of the Skythians and Kimmerians forced the Assyrians to abandon their chariots, and finally to move their riders forward from the *Eselssitz* with which Near Easterners had been satisfied for thirteen hundred years.¹⁸

It can be granted that when men rode horseback in the second millennium BC they sometimes controlled their horses with organic *Stangenknebel*. There is reason to think, however, that much more often the *Stangenknebel* must have controlled chariot horses, and in fact chariot horses in battle. Most of the bits found in Late Bronze Age levels at Anatolian sites are organic *Stangenknebel*: as Hüttel himself had noted in 1981, bone and antler cheekpieces have turned up in excavations at Alaça Hüyük, Alişar, Beyçesultan, and Boğazköy.¹⁹ The Hittite kings, like all other Great Kings in the Late Bronze Age, employed a huge chariotry and no cavalry. By themselves, then, the *Stangenknebel* are not evidence for riders (to say nothing of armed riders) in Danubian lands in the middle of the second millennium BC.

We can all agree that villagers in Europe and the steppe, as in the Near East, must occasionally have ridden horses in the second millennium and even in the late third. But that any of these riders was secure enough on his mount to wield a weapon as he rode, or in fact to do much else than stay on his horse, is a very different and an unlikely proposition. We have already seen what riding was like in the Near East during the Bronze Age, and have noted that from temperate Europe and the steppe our first direct evidence for riding comes from the end of the second millennium. Equally important is the argument from military history. Apart from the Iron Age horsemen who pursued and dispatched lone infantrymen, and who had no role in deciding the outcome of infantry battles, mounted warfare in antiquity featured either archers operating at long range or a shock cavalry. Shock cavalry, which may have been employed as early as the eighth century BC, was effective in panicking and dispersing a loose-order infantry, but such infantries do not appear on the battlefield in our copious evidence for the Late Bronze Age. While infantries were employed for defensive purposes, offense was left to the chariot archers and to the chariot “runners.” Offensive infantry formations made their first appearance as a response to the raiders who sacked so many cities and palaces in the late thirteenth and early twelfth centuries.²⁰ It is difficult, in other words, to imagine what a shock cavalry in the Bronze Age would have been used *against*. In any case there is no firm evidence for cavalry charges until the middle of the first millennium BC.

Mounted archers, on the other hand, would certainly have been useful—in fact very useful—in Bronze Age warfare. The objections here, however, are not only that mounted archers are unattested before *ca.* 900 BC but also that the history of warfare has no place for them until the Iron Age. That is, if mounted archers had been a force to be reckoned with already in the third or second millennium BC why did the Great Kingdoms of the civilized world not enlist some of them? Why did the kings instead go to such lengths to assemble chariot forces, which were less efficient and far more expensive? When the Athenians of the sixth century BC decided that their phalanx could be strengthened by the addition of mobile archers they did not recruit a chariot force, but instead hired several hundred “Skythians,” each of whom could shoot a bow while riding. The Great Kingdoms of the Bronze Age cast a wide recruiting net, the kings of Egypt hiring “runners” from lands as far away as Sardinia and northern Greece. If expert mounted archers were available on the Pontic-Caspian steppe or along the Danube surely some of them should have showed up on the payrolls of the Great Kings in the Near East. Even more to the point, if the inhabitants of the Danube valley were already expert as mounted archers in the seventeenth century BC, why did they squander their skills in lording it over the poor villagers of eastern and central Europe, rather than turning to the wealthy

but riderless cities and kingdoms of the Aegean and the Near East? The reason for keeping them well to the north, I suspect, is that for the civilized world we have enough written and pictorial evidence to know that armed riders were not yet a threat in the Bronze Age. For the lands of eastern and central Europe, on the other hand, as for the steppe itself, the documentation is just skimpy enough that one can imagine them being overrun by armed riders. In Gimbutas' imagination this began to happen *ca.* 4000 BC, while more cautious scholars imagine it beginning in the third millennium or *ca.* 1600 BC.

The earliest representation of mounted combat in temperate Europe may be a rock carving at Tegneby in Bohuslän, along the coast of southwestern Sweden. The Tegneby figures seem to have been carved in the second quarter of the first millennium BC.²¹ A few representations of working horses are known from the European Bronze Age, but these are all chariot horses (Bronze Age sites in temperate Europe have also produced several pictures of chariots alone, without the horses). It is theoretically possible that some of the antler tine cheekpieces found in Danubian lands were used, as Hüttel suggested, to control riding horses. What is demonstrable, however, is that although in the European Bronze Age the horse continued to be primarily a food animal, by the middle of the second millennium BC men who lived along the Danube were fitting cheekpieces to the bridles of chariot horses.

The Aegean world is far better documented than the lands of the Danube, and here military riding seems to have begun in the seventh century BC. The Mycenaean Greeks were much concerned with chariots and hardly concerned at all with riding. In their Geometric period Greek vase painters seldom depicted a rider. Things changed in the "orientalizing" period (beginning late in the eighth century BC), as riders begin to appear more often on the vases. "At first they ride badly," Anderson observed, and "not until the middle of the seventh century B.C. do the vase paintings suggest a firm and comfortable seat."²² Homer says almost nothing about riding. In the *Iliad* the heroes are constantly getting in and out of their chariots, but the only riding is done when Diomedes and Odysseus, having decided to steal the chariot horses of Rhesos, ride off with them during the night.²³ And the story of Bellerophon's slaying of the Chimaira evidently did not yet, in Homer's day, include the winged horse Pegasus. The improvement in horseback riding that is visible in ninth- and eighth-century Assyrian reliefs quite clearly did not begin in Greece. That people along the Danube should have been expert riders for a millennium before people in Greece learned to ride properly, and that equestrian skills were brought to the Near East from the Balkans, is a fairly remote possibility.

From Europe and Egypt to China both pictorial evidence and the "argument from silence" converge toward the conclusion that until the end of the second millennium BC nobody anywhere was able to ride with the assurance and competence that would have been necessary for a man to ride a horse in battle. As noted in Chapter 3, the Chinese do not seem to have done any riding at all until *ca.* 400 BC, and in the Near East the Assyrians were still not sure of themselves on horseback in the reign of Shalmaneser III. On the other hand, by the early ninth century BC at least some of the Assyrians' opponents were able to ride well, and by late in the eighth century an Assyrian horseman was able to handle his horse while shooting a bow. We may therefore conclude that good riding was an innovation of the early Iron Age.

Where the innovation took place has not been much debated. Scholars who have not recognized a general innovation have assumed that from the ninth to the seventh century people in Greece and the Near East simply “caught up” with inhabitants of temperate Europe and the Eurasian steppe, who had been riding well for millennia. Although we have little reason to think that either the steppe dwellers or Europeans had mastered the art of riding much before the Assyrians did so, some evidence does suggest that the innovation appeared first on the steppe. As I shall show in this chapter, the use of bridle bits in the Pontic-Caspian steppe seems to have increased dramatically soon after 1000 BC. On the Koban figurine, which dates to the end of the second or the beginning of the first millennium BC, the miniature rider is seated close to his mount’s withers. Two thousand miles to the east of the Caucasus and the Kuban river, recent discoveries in the Tarim Basin of western China suggest that early in the first millennium BC riding may have been becoming common in that region. At Zaghunluq, at the southeastern edge of the Basin and near the city of Cherchen, Chinese archaeologists have unearthed a grave from the early first millennium BC, and the occupant of the grave had evidently spent enough of his life on horseback that when he was sent to the underworld he was dressed in woolen pants and accompanied by a leather saddle.²⁴

Circumstantial evidence also suggests that good horsemanship must have become widespread on the wider Eurasian steppe at about that time. Although debate continues about the beginnings of pastoral nomadism in the Eurasian steppe, since M.P.Gryaznov first argued the case most steppe archaeologists and prehistorians have been persuaded that it was some time after 1000 BC that a fully nomadic way of life began on the steppe, and that by the end of the eighth century permanent villages had all but disappeared.²⁵ Because nomadic societies in later periods depended heavily on horseback riding, it is a reasonable assumption that the early nomads too were riders. Why the steppe dwellers abandoned their villages and became nomads is of course disputed. Anatoly Khazanov proposed that a climate shift *ca.* 1000 BC was responsible: as rainfall declined the steppe dwellers were forced to move their animals through an annual circuit, many hundreds of miles long, of seasonal pasturages.²⁶ Another possibility (and I think a more likely one) is that a sudden improvement in horsemanship—and the consequent ability to handle a weapon while on horseback—was itself the main motivation for nomadic life.²⁷ Good riding may have made it relatively easy for “poachers” or “rustlers” to drive off the cattle and sheep that lone herdsmen from the settlements had traditionally taken into the steppe. In that case, to protect their herds the settlement communities may perforce have turned to full nomadism.

The most vivid evidence for ridden horses in the Iron Age comes from kurgans located in southern Siberia, more than a thousand miles east of the Urals, near the small communities of Pazyryk and Arzhan. In burials here archaeologists found not disjointed horse bones, the residuc of funeral banquets or food offerings left for the deceased, but the whole skeletons and bodies of horses that the dead man would ride in the underworld. The town of Pazyryk (see map at Figure 3.9) lies some 1500 m above sea level on the northern slopes of the Altai mountains, a little more than fifty miles north of the Chinese border.²⁸ The Pazyryk plateau looks down at the Bashkaus river (also known as the Yan-Ulaghan), whose waters flow into the Ob and eventually into the Arctic Ocean. Strung along the river near Pazyryk is a chain of five large kurgans or barrows, along with dozens of smaller timberlined graves. Because of the altitude, the location, and the layer

of loose stones atop the barrows, permafrost kept the burials beneath the great kurgans in a remarkable state of preservation for almost two and a half millennia.



Figure 4.3 Felt wall hanging from Pazyryk, Kurgan 5, late fourth century BC; courtesy State Hermitage Museum, St.Petersburg.

The first of the five large kurgans at Pazyryk was excavated in 1929 by M.P.Gryaznov, and the other four by Sergei Rudenko between 1947 and 1949. The plateau was the burial ground for the rulers or chieftains of a nomadic or semi-nomadic tribe, and although all of the barrows were plundered in antiquity they show clearly

enough the skills and resources of the tribe and the extent to which its way of life depended upon the riding horse. In each of the kurgans the buried ruler was accompanied by a retinue of servants and associates, and also by riding horses and horse harnesses. In all, fifty-four horses were buried in the five Pazyryk kurgans, together with their riding gear. Rudenko found in Kurgan Five a beautiful wall hanging (see Figure 4.3), on which a rider and his mount were depicted in colored felt, the horse saddled and bridled and the rider splendidly attired in jacket and hat. In the first kurgan Gryaznov unearthed the bodies of ten yellow mares, along with their saddles and bridles. So well preserved were the mares' hides, sinews and interior organs that Gryaznov was able to determine what they had eaten in the hours before they were killed. Dendrochronology establishes that the last of the great kurgans at Pazyryk was built forty-eight years after the first. The absolute dates are less certain. In the 1960s carbon dating put the midpoint of the series at 430 BC, but James Mallory reports that recent tests indicate a date *ca.* 300 BC.²⁹

A considerably earlier and a still more spectacular kurgan lay at Arzhan, three hundred miles east of Pazyryk, on a tributary of the Yenisei river and some sixty miles from the city of Kyzyl.³⁰ In the Arzhan Kurgan, excavated between 1971 and 1974, the chieftain was buried with his consort and fifteen other human attendants, and the humans were sent to the underworld with at least 150 and possibly 160 riding horses. Six of the riding horses were buried in the central chamber, with the "tsar" and "tsarina" and six human attendants, but most were buried in separate cells in this gigantic kurgan. Evidently a great many of his subjects and allies sent a saddled and bridled horse as a final tribute to the dead chieftain. Like the horses at Pazyryk, the Arzhan horses were decked out in their finery: their bridles were "adorned with gold and bronze plaques and pendants carved from boar tusks."³¹ For construction of the Arzhan Kurgan some six thousand larch logs were brought from the nearby forest, and the tree rings show that this barrow was built 241 years before the construction of Pazyryk Five. Although the excavators dated the Arzhan Kurgan to the early seventh century, the new carbon dates announced by Mallory would lower it to the second half of the sixth century. Whatever the date of the Arzhan Kurgan, the "rider" culture that it displays must have begun considerably earlier. Nikolai Bokovenko, writing before the new carbon dates were available, suggested that the ninth century was the formative period for the Arzhan cultural assemblage.³² We may now amend that downward, provisionally assuming that in the Yenisei basin a riding society emerged in the eighth century BC.

It appears that throughout the pastureland north of the Altai mountains horses became very important in the Iron Age. When a man was buried, his horse was killed and buried at the same time. Initially the custom was to bury the horse separately, and to the south of its owner's grave, but later the men felt more secure with their horses closer by: "The general trend in the burial ritual of the 8th-6th centuries B.C. was the gradual transition to the practice of burying a bridled horse or horses in the same grave as the men but usually outside of the timber grave."³³ In the Minusinsk basin of southern Siberia the eighth through the sixth centuries saw the beginning of the Tagar or Tagarskaya Culture, which was in all respects a horse culture.³⁴ By the time of the Han dynasty, the Hsiung-nu on the northwestern border of China were said to have been able to put into the field more than 100,000 horses.³⁵

Although the southern Siberians were evidently good horsemen by the eighth century BC, and may have been so already in the ninth, they seem to have been matched by men

in eastern Anatolia and in the highland steppe of western Iran. Since the Ashurnasirpal relief in Figure 4.2 shows that his opponents were mounted archers capable of making “the Parthian shot” we must concede that in the early ninth century expert riders were already to be found within striking distance from Assyria. Although they are not identified we may assume that these riders lived beyond the mountains to the north and the east of Assyria (see map at Figure 4.4). The long and narrow band of plains between the Zagros mountains and the salt deserts of central Iran, at an altitude of five or six thousand feet, was ideal for the breeding of horses. On the horsemanship of the inhabitants both of these plains and of Urartu, roughly corresponding to Armenia in Roman times, our best evidence is the “letter to the gods” that Sargon II composed after his campaign in 714 BC. About the Zaranda district of southeastern Urartu Sargon gave the following report, in Stephanie Dalley’s translation:

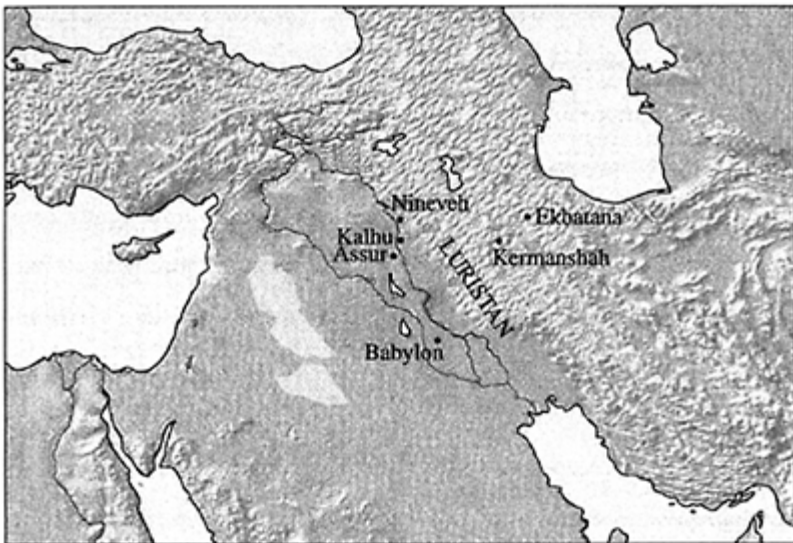


Figure 4.4 Map of Mesopotamia and Iranian plateau; drawn by Sherrye Young.

The people who live in that province in Urartu are all very able in matters of cavalry, and there are none equal to them. Every year they take very young, thoroughbred foals which are born in their vast country, which they rear for his (i.e. King Rusa’s) royal army. They do not attempt to ride them, nor do they show them how to advance, turn and go back—the essentials of warfare—or harness them to a yoke, until they have been taken to Subi, which is a province that the Urartians call Mannaeans, and until their capabilities have been assessed.³⁶

The Urartians had apparently become superb horsemen by profiting from the skills of their neighbors to the southeast. Mannea was a district of north-western Iran, just south of Lake Urmia. At two sites in the central Zagros excavators have discovered the burials of single horses, and at nearby Hasanlu nine more horse skeletons were found, one of them in a building destroyed *ca.* 800 BC.³⁷

Although we have no ninth-century texts that describe so vividly the horsemanship of Urartu and the lands across the Zagros, some of the annalistic inscriptions contain useful clues. In his first and second regnal years, 883 and 882 BC, Ashurnasirpal II campaigned in the mountainous country of Nairi and Urartu and brought back horses, supplied as tribute to him by the valley kings.³⁸ During the next two years he made three campaigns eastward into the Zagros mountains, subduing the rebellious king of Zamua. Zamua seems to have been a series of valleys that furnished the headwaters of the Diyala river, in the central Zagros. Here too horses were included in the tribute that the frightened kings brought to Ashurnasirpal.³⁹ Although Ashurnasirpal specifies that the horses given to him were “broken to the yoke,” and so intended for service in his chariot corps, in their native valleys horses were probably used more as riding animals than as draft animals. Inscriptions of the early eighth-century kings in Urartu indicate that on campaigns these Urartians brought along riders by the thousands, but relatively few chariots.⁴⁰ An inscription left by Menua, who ruled Urartu early in the eighth century BC, boasted that his horse “Arshibini” had jumped an astonishing thirty-seven feet, and Arshibini had obviously not performed the feat as a draft animal (King Menua’s name also appears on a bronze bit).⁴¹ Evidence for good riders in the Zagros region at an early date comes from a cylinder seal that Roman Ghirshman discovered in his excavations at Siyalk during the 1930s. Siyalk lies on the western fringe of the Iranian plateau, due south of Teheran and just to the east of the Zagros range. The seal shows two mounted archers, the archers dressed in pants or breeches and the horses wearing bell-like pendants and decorated with bands of fabric reminiscent of those sported by the horses at Pazyryk.⁴² Ghirshman found the seal, along with bronze cheekpieces and bits, in Siyalk’s Cemetery B, which dates to the late ninth or the eighth century.⁴³ The plain in which Tepe Giyan stands, not far from Nihavand, was identified by Ghirshman as Nishai: the Nisaeen plain that Greek writers celebrated as the region from which the Persian kings’ best horses came.⁴⁴

At this point we must make reference to the problematic “Luristan bronzes,” many of which are pieces from horse bridles and harnesses. A hundred years ago “Luristan” was the name for a mountainous region of western Iran southeast of “Kurdistan” (see map at Figure 4.4). The valleys of the central Zagros—running on a diagonal from northwest to southeast—between Kermanshah (now Bakhtaran) and Harsin in the north and Khurramabad and Malavi in the south were “the land of the Lurs.”⁴⁵ The heart of Luristan was the valley, more than a hundred miles long, through which the Saimarreh river flows along the eastern slopes of the Kebir Kuh (“Great Mountain”) until it eventually runs dry. The width of the valleys varies from a few hundred feet to ten or twelve miles, and for a very long time the valleys were either difficult or impossible for outsiders to penetrate. In the nineteenth century they were controlled by nomadic Lurs, who had a reputation for being inhospitable to such strangers as entered their valleys, and the first European to visit the land and live to publish an account of it was Major Henry Rawlinson, in 1836 (unlike his predecessors, Rawlinson had the advantage of travelling through Luristan at the head of a regiment).

It is paradoxical that this mountainous land, poor and marginal in recent centuries, was apparently prosperous in the late second and early first millennia BC. Its brief good fortune was almost certainly the result of its suitability for the production of bronze and iron artifacts, which could be traded to the populations of Media to the east and—more importantly—of Mesopotamia to the west. Although a few stands of hardwood trees are still to be found in Luristan,⁴⁶ most of the mountainsides have long been deforested. In antiquity, however, trees seem to have been much more abundant, and it may have been the availability of firewood that made the valleys of Luristan a center for metallurgy. Bronze metallurgy began in Luristan in the first half of the third millennium BC, and by the beginning of the first millennium the local founders seem to have become specialists in “lost wax” bronze-casting.⁴⁷ Iron working began before 1000 BC, but even in the eighth and early seventh centuries bronze was favored by the metallurgists of Luristan. With elaborate bronze artifacts in such plentiful supply, the inhabitants of Luristan were generous in supplying bronze grave-goods for their deceased, and it is these grave-goods that have become the “Luristan bronzes” of modern museums.⁴⁸ The golden age of metalworking and prosperity in Luristan was brief, however, and rich burials in these valleys ceased rather suddenly around the middle of the seventh century BC.⁴⁹



Figure 4.5 Bronze bit from Luristan, probably ninth century BC; from De Waele 1982, fig. 57; courtesy Éric De Waele and the Institut Supérieur d’Archéologie et d’Histoire de l’Art at

the Université Catholique de Louvain,
Louvain-la-Neuve.

All of this is important for our purposes because a great many of the “Luristan bronzes” are items of horse harness: when the early Iron Age inhabitants of the central Zagros buried their dead the gifts they sent along to the underworld were especially bits and bridles, pendants, and other horse trappings. In his catalogue of the bits from the ancient Near East, Potratz found that 144 of them (represented by either mouthpiece or cheekpieces or both) came from Luristan. That is approximately four times as many as have come from all the rest of Iran, despite the fact that Luristan is a tiny part of modern Iran, and because it is mountainous is not so suitable for horses as the plateaus of Media to the northeast or Fars to the southeast.⁵⁰ The cheekpieces and mouthpieces from Luristan are in a variety of styles, and the cheekpieces especially show elaborate workmanship (see Figure 4.5). It is generally agreed that the great majority of these date from the Iron II and Iron III periods of Luristan prehistory but precision is not yet possible. Although absolute dates are still problematic, it is clear that by the end of the second millennium BC the inhabitants of Luristan were producing excellent work in iron as well as bronze. A recent C¹⁴ dating of decorated iron swords from Luristan indicates that the charcoal used for smelting the iron came from wood that was cut *ca.* 1100 BC, a date that corresponds remarkably well with the dates for Luristan’s Iron I period that Edith Porada proposed almost forty years ago on stylistic and comparative grounds.⁵¹ The subsequent period, Iron II, should accordingly be dated to the tenth and ninth centuries. Potratz concluded, although on somewhat circular reasoning, that the bronze pieces of horse harness from Luristan date from the ninth through the seventh century, coinciding precisely with the Neo-Assyrian Empire.⁵²

It appears, then, that already in the ninth century one or more “horse cultures” lay not very far from Luristan. To the west, the Assyrians presumably purchased bits, pendants and other trappings mostly for chariot horses. To the east, in Media and elsewhere on the Iranian steppe, chariots seem always to have been much rarer than they were in Assyria, and what horse harness the Medians required was more likely meant for horses that were ridden rather than driven. When Assyrian kings imported cavalry (as opposed to chariotry) horses, they regularly imported *mesaya* horses, or horses “from Mesu,” a district in western Iran.⁵³ It is unfortunate that Iran—with the ambiguous exception of Luristan—is archaeologically far more obscure than the Near East from Mesopotamia and Anatolia to Egypt. Potratz assumed that when archaeologists begin to dig in Iran as extensively as they have in lands to the west of the Zagros, they will find a great number of artifacts appropriate for the ridden horse.⁵⁴ In this context the bronze bits and the seal that Ghirshman found at Siyalk in ninth- or eighth-century levels are important, since the seal depicts archers on horseback. The riders wear pants, and so we must assume that by the eighth century at the latest riding was already traditional enough and common enough in the environs of Siyalk that a costume specifically designed for riders had come into use. The costume evolved into the belted pants that the Medians and other Iranians are shown wearing in the Achaemenid reliefs at Persepolis and Naqsh-e Rostam.

Whether the southeast Anatolians and northwest Iranians may have been anticipated in good horsemanship by the inhabitants of the Eurasian steppe cannot be determined on present evidence, but the priority is not crucial for present purposes. We can be satisfied

with the general observation that good riding, with the rider sitting on a saddle or saddle cloth placed close behind the horse's withers, seems to have begun early in the first millennium BC, and that within a century or two it was on display over much of the Eurasian steppe, as far to the east as Mongolia, and as far west as the Zagros and the Caucasus frontiers of the Near East. It may be that the Near East itself, Greece, and temperate Europe were slightly laggard in this development, but even in Greece good riding was in evidence by the seventh century and in central Europe no later than the sixth. As was the case with the proliferation of wheeled vehicles in the fourth millennium, with chariots *ca.* 2000 BC, and with chariot warfare in the second quarter of the second millennium BC, the innovation of good riding spread quickly over a very wide area.

Having gone about as far as we can in determining when and where good riding first appeared, we must now ask what made it possible. Until late in the 1960s many hippologists believed that in the second millennium BC horses were not big enough to carry a man easily, and that serious riding could not begin until selective breeding began to produce horses that stood about fifteen hands high.⁵⁵ This explanation became untenable when Sandor Bökönyi published his measurements of the horses found at Pazyryk.⁵⁶ In the fourth century BC the riding horses of southern Siberia were no bigger than the Near Eastern chariot horses of the Late Bronze Age. The taller horses at Pazyryk, all equipped with masks for ceremonial purposes, ranged between 140 and 145 cm, but the majority—those without masks—averaged only 132 cm, or thirteen hands. The osteological data indicated that something other than the size of the horses must have changed between the second millennium and the first.

Some of the progress can be attributed to the saddling of horses.⁵⁷ In the civilized world a "treed" saddle, an essentially wooden frame covered with cloth or leather padding, did not make its appearance until Roman times,⁵⁸ but a pad saddle or heavy saddle cloth seems to have come into use early in the first millennium BC. Assyrian reliefs show that the horses ridden in the ninth century both by the Assyrians and by their opponents wore saddle cloths that were held in place by girths, breaststraps and breechstraps. On the Eurasian steppe saddling was more substantial. It has long been known from gold work found on the steppe that the so-called Skythian riders sat on a pad saddle. Recent evidence has come from what Chinese archaeologists have discovered, and from what Elizabeth Barber, James Mallory and Victor Mair have reported, about the sensational mummies of the Tarim Basin. As mentioned above, excavators at Zaghunluq, near Charchen, have recently found a leather saddle in a grave dating from early in the first millennium BC. According to some authorities the burial dates *ca.* 1000 BC, although others believe it is considerably later.⁵⁹ By the fourth century BC even a primitive treed saddle was available on the steppe north of the Altai range: at Pazyryk saddles were found along with the horses, and although most of these were pad saddles a few had an elementary wooden frame.⁶⁰

Like the saddle, a thick saddle cloth helped to protect a man's testicles from injury and also reduced the chafing of the rider's legs. The latter desideratum was also served by a pair of pants, or breeches. Pants may have come into use as early as the turn of the second and first millennium,⁶¹ although the question will have to remain open until the dates for the Zaghunluq graves are settled. In the same grave here that produced the leather saddle was buried a tall, middle-aged man, who wore a pair of brightly colored

woolen pants.⁶² It is well known that the Skythians portrayed in Greek art are trousered.⁶³ Pants were also popular among ancient Chinese riders, and are well illustrated by the terracotta riders in the tomb of Emperor Ch'in Shih-huang-ti.⁶⁴ The Chinese will have borrowed the idea of pants from the steppe dwellers of Mongolia, Siberia, and the Tarim Basin. On the elegant felt wall hanging from Pazyryk Five (see Figure 4.3) the rider sits in a saddle and wears pants. Far to the west, as we have seen, a very early representation of riders wearing tightly fitted pants appears on the cylinder seal from Cemetery B at Siyalk. Much roomier pants seem to be worn by the enemy horsemen depicted in the Ashurnasirpal relief at Nimrud, dating to the early ninth century BC.⁶⁵

But pants, saddles and saddle cloths could have been only one element in the revolution in horsemanship. Some first-millennium riders neither wore pants nor used saddles. In the later Archaic and the Classical period of Greece, by which time they were accomplished riders, the Athenian *hippeis* still rode bareback. They regarded the Persians' use of saddles and saddle cloths as effeminate, and noted the difficulties of mounting a horse that had a saddle on its back.⁶⁶ Pants, saddles and saddle cloths were certainly signs that riding was becoming commonplace, and they undoubtedly played a role in its becoming so. It is nevertheless likely that they were secondary to a more fundamental change.

Several scholars have remarked that for the eighth-century Assyrians, at least, an important innovation was their addition of a sort of martingale to the bridling system, the Assyrian martingale being a bell-shaped tassel suspended from the reins. When a mounted archer dropped his reins in order to shoot, the martingale's weight would have fooled the horse into thinking that the rider still held the reins.⁶⁷ Such tassels are depicted in Assyrian reliefs from the second half of the eighth century BC, and they may indeed have helped the mounted Assyrian archer to keep his horse under control while shooting. The Iranian enemies of the Assyrians, however, seem to have had no need for a martingale, nor does it ever show up in Greek vase paintings, in the Skythian art of the Pontic-Caspian steppe, or anywhere else in Eurasia. While the martingale may have helped the eighth-century Assyrians to catch up with the more advanced horsemen to the east and the north, it obviously was not responsible for the general revolution in horsemanship that was already under way by ca. 900 BC.

The broader archaeological record, if we look at all of Europe and Asia, indicates that the crucial innovation was a more basic means of control. In temperate Europe and the steppe, from the Urals to the Alps, horses had been bridled and bitted since the introduction of the chariot. But for most of the second millennium BC horses in barbaria seem to have been bridled with bits made from organic materials.⁶⁸ In eastern and central Europe bronze bits did not begin to appear until ca. 1200 BC. Then, early in the first millennium, bronze bits also began to show up on the steppe, and soon thereafter their numbers increased explosively. My very rough estimate is that for every second-millennium bit that has been found on the Pontic-Caspian steppe and catalogued, we have fifty from first-millennium contexts.⁶⁹ For temperate Europe the ratio may not be quite so steep, but is nevertheless striking.⁷⁰ It will obviously be worth our while to take a close look at bits and bridles.

The bit, consisting of a mouthpiece and two cheekpieces, is the instrument through which a rider or a driver both directs a horse to left or right and also brings it to a stop. In an organic bit of the second millennium BC the cheekpieces were rigid while the

mouthpieces were pliant, and as a result the lateral control provided by the cheekpieces was more effective than the stopping or braking capacity of the mouthpiece. The cheekpiece was designed to cause some pain to the horse's cheek when tugged by the opposite rein, and so to persuade the horse to turn in the desired direction. One variety of cheekpiece was the *Stangenknebel*, made from antler tine (see Figure 2.3). Here pressure was exerted along the entire line of the cheekpiece, although the point of concerted pain was the very tip of the tine. Another variety was the disk cheekpiece, carved from bone or antler in such a way that four or six studs protruded from the inner face of the disk. Still another variety was the "toothed" plate: a semi-tubular plate of bone, with "teeth" notched into its edges, again inflicted some discomfort on the horse's cheek when pulled by the opposite rein.⁷¹

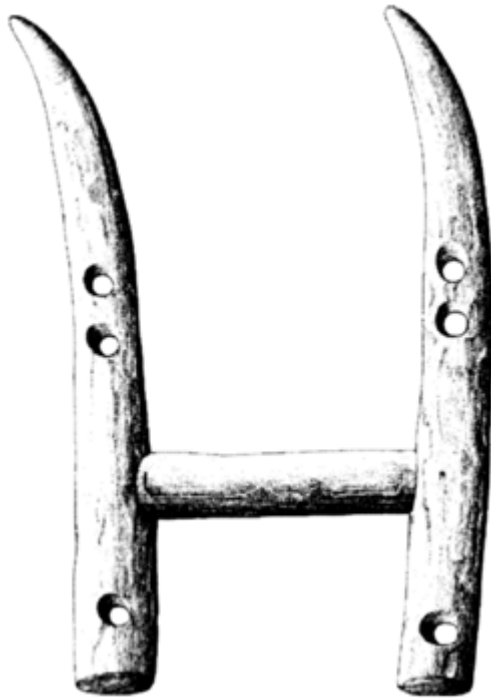


Figure 4.6 Organic bit—cheekpieces of antler, mouthpiece of bone—found at Corcelettes, Switzerland, 1500 BC?; drawing by Brigitte Gies and Manfred Ritter in Hüttel 1981, Tafel 16, no. 165; courtesy Hermann Müller-Karpe and the C.H.Beck Verlag, Munich.

The braking function of the bit was performed entirely by the mouthpiece, or snaffle, and in organic bits the snaffles must almost always have been soft and weak. Of that we can be quite sure, because the great majority were evidently made of perishable material such as leather, cord or—at best—wood. The one known exception to that rule was discovered in the nineteenth century at Corcelettes, in the Grandson district along Switzerland's Lake Geneva.⁷² In the Corcelettes specimen (see Figure 4.6) the cheekpieces were made of antler, and the mouthpiece was made of bone. But a mouthpiece of bone or some other durable material must have been a great rarity: the Corcelettes bit is the only organic bit thus far found in which the mouthpiece is preserved. Because normally the mouthpieces, unlike the bone or antler cheekpieces, did not survive in the graves in which they were deposited, we must conclude that until late in the second millennium BC the inhabitants of Europe and the steppe had regularly made snaffles from perishable material. Although some of the snaffles were made from wood, many of them—if we may judge from the diameter of the holes in the cheekpieces through which the snaffles were inserted (see the *Stangenknebel* at Figure 2.3)—must have been cord or a thin strip of leather. This soft bit was placed between the diastemata of the horse's lower jaw, the gaps between the incisors at the front and the premolars and molars in the back.

When pulled with both reins the snaffle would have pressed against the corners of the horse's mouth, causing some discomfort and ideally persuading the horse to come to a stop. If, however, the horse worked the snaffle back to its premolars and then clamped them down it could neutralize the entire bridling system. Whether driven or ridden, the typical horse in temperate Europe or on the steppe in the second millennium BC must frequently have taken the bit between its teeth and been unresponsive to the commands given it. On even the most placid horse the control must from time to time have been lost when a mouthpiece, frayed by wear, was snapped or torn.

Late in the second and early in the first millennium bridling became much more secure, as men from Switzerland to Mongolia began to control their horses with metal bits, bronze in the early centuries and eventually iron. Because in the more westerly parts of this huge expanse bits seem to have been used mostly for chariot horses, or at least for paired draft horses, the adoption of the metal bit in temperate Europe did not immediately result in better riding.⁷³ Hüttel's catalog shows that the earliest metal bits in eastern and central Europe began to appear in the *Jungbronzezeit* (ca. 1300–1100 BC), although through much of that period organic bits still predominated. In the subsequent *Spätbronzezeit* (1100–900 BC) almost all of the dateable specimens are in bronze.⁷⁴

Of greater consequence seems to have been the spread of the bronze bit into the Kura-Araxes valley and western Iran ca. 1000 BC, and finally into the steppe in the ninth century. In all of these areas, unlike in the Near East and in Europe, bits were used more for ridden than for driven horses, and we may deduce that the substitution of a metal for an organic bit marked a signal improvement in the security of riders, and opened a new chapter in horse history. This has been stated most recently by Bokovenko, who concluded that in the steppes of central Asia the mastery of riding occurred at the beginning of the first millennium BC and coincided with "the development of a more reliable type of bronze bridle."⁷⁵ All through the second millennium BC a few horses on the steppe had been used to pull chariots. On the steppe, however, there were no kings who could assemble and maintain vast chariot armies (we have no evidence for chariot

warfare on the steppe, and it is likely that here the chariot was a means of transportation, a recreational vehicle, and a status symbol), and we may therefore presume that horses were ridden more often than they were driven, all of them being controlled by organic bits. More importantly, in the second millennium BC most horses on the steppe were neither draft nor riding animals, but were still being raised for their meat and milk.⁷⁶ After the Bronze Age the role of the horse as a food animal and a draft animal was vastly overshadowed by its role as a riding animal.

If we put ourselves in the position—literally—of a rider at the beginning of the first millennium BC we may better appreciate the advantages of a bronze bit. A rider who was not entirely confident that he could control his horse would have been especially worried that the horse would put the bit between its teeth and run out of control. In such circumstances the rider would need to get off the horse—to eject himself—as quickly and safely as possible. From a forward position a rider could have put his right arm around the horse's neck, swung his right leg over the horse's rump, and let himself drop to the ground, trying to face in the direction that the horse was moving. This is how modern riders learn to “fall off” a saddled, running horse.⁷⁷ It is, however, a risky manoeuvre, and if undertaken from a galloping horse it is likely to result in broken bones or worse unless it has been much practiced at slower gaits. It may be that in the Bronze Age, when saddles were not yet in use, a rider preferred to “fall off” a runaway horse by ejecting himself off the horse's rear (Bronze Age horses, as we have seen, rarely stood more than thirteen hands high). With some luck the rider would have landed on two feet, would have fallen forward, and by extending his arms would have been able to break his fall: a painful and unceremonious way to dismount, certainly, but probably preferable to sliding off the side of a galloping horse.⁷⁸ Perhaps it was the fear of being astride a runaway horse that all through the second millennium had kept riders in their awkward, backward seat. In any case, when thanks to the jointed bronze snaffle they felt themselves fully in control of their mounts, riders finally began to sit forward, where they belonged, on pad saddles or saddle cloths placed behind the withers.

There has long been an assumption—a misconception, it now seems to me⁷⁹—that people have a “natural” ability to ride horses, and that they began riding as soon as they began raising horses for food. Although he knew of no horse harness in the steppe dating earlier than the second millennium BC, Potratz supposed that long before that time the steppe dwellers had been riders, being able to control their mounts with ropes, straps, the pressure of knees and thighs, and voice commands.⁸⁰ More recent hippologists have also assumed that the “horse peoples” of neolithic and Bronze Age Eurasia rode well, using only rudimentary means of control.⁸¹ It is beyond dispute that in some societies men have been superb riders without using bits of any kind. The Native Americans of the Great Plains were able to control their horses with a cord looped around the horse's jaw.⁸² In the second century BC the Numidians of Libya, who amazed the Romans with their riding ability, used no bridles at all.⁸³ What has been overlooked by the hippologists, however, is that the Numidians of antiquity and the Plains Indians of the eighteenth century had one prerequisite that the Eurasian steppe dwellers of the neolithic and Bronze Age did not have: the example of good riding, and the knowledge that it is not only possible but even essential for a rider to have his mount completely under control.

The Plains Indians and the ancient Numidians, that is, had learned from the Spanish *conquistadores* and from the horsemen of Carthage and Cyrene that a ridden horse could

and should be expected to obey all of its rider's commands. The natural instinct of a horse having to carry a rider on its back is to misbehave, and equestrians in classical times recognized this and knew the remedy. The main theme in Xenophon's treatise on horsemanship is the proper relationship of the rider to the horse: through a consistent regimen of rewards and punishment (the rewards being especially important) the rider must train his horse to trust him and obey him.⁸⁴ Men and women with long experience as riders know that the bit itself, however useful it may be toward that end, is not what controls a mount. The ultimate control is the rider. If a spirited horse senses that its rider is uncertain, tentative, or fearful—and a ridden horse (unlike a driven horse) can readily sense fear from its rider's posture and muscles—not even a severe bit will prevent the horse from doing what it pleases. On the other hand, when through much training a horse has learned to trust and obey its rider it will normally respond to the rider's commands, however gently they are communicated. In the revolution in horsemanship that occurred early in the first millennium BC the most important change must have been in the relationship of rider and horse: the riders were now in control, and the horses obeyed. The bronze bit contributed a great deal to this change, but it was only a means toward an end. Once the proper relationship between horse and rider had been recognized, it was possible always in theory and occasionally in practice for riders to achieve the ideal even without the help of a metal bit. Thus the Numidians and the Plains Indians, with no more than a loop around a horse's neck or jaw, reached and surpassed the standards of control that had been set for them by riders whose mounts wore bridles and metal bits.⁸⁵

In the second millennium BC, so far as we can tell from textual and pictorial representations, no standard of good riding was yet available. Although reliable control of draft horses must have been the norm in the Near East in the Late Bronze Age, the Near Easterners evidently did not yet need to extend to riding the high standard of control that they required in driving. In barbaria, where the controls for both ridden and driven horses remained primitive, it is unlikely that either riders or drivers had much confidence in their ability to control their horses. We may therefore suppose that before 1000 BC mutual trust between riders and their mounts was nowhere common, and that mounts must chronically have misbehaved. The riding that was done seems to have been awkward and anxious, and the idea that a horse would ever be fully compliant with its rider's wishes must for most people have been as incredible as the notion that a lion could be tamed and taught to sit on a box.

Effective controls were developed in the Near East during the Late Bronze Age, with chariot warfare. In battle the lives of the two-man chariot crew depended on how well the driver could control his team. Despite its limitations the organic bit was a vast improvement over the noserings used at the very beginning of the second millennium, and for the first two centuries of chariot warfare the organic bit was evidently the standard means of control everywhere: in Greece and temperate Europe as well as in Egypt and all of the Near East. Even after metal bits had come into use, many drivers continued to depend on organic bits. In Anatolia, as we have seen, most of the cheekpieces that have been found in Hittite levels are bone or antler *Stangenknebel*.⁸⁶

Eventually, however, in most of the Near East the organic bit must have come to be regarded as inadequate for keeping horses under control in battle conditions. Horses are nervous by nature, and when frightened their instinct is to run away as fast as they can. A lightweight chariot pulled by galloping horses would have been in great danger of

“bounding” and crashing, and in battle a driver must have been especially concerned to keep his team from breaking into headlong flight.⁸⁷ One solution, favored especially in Egypt and represented in New Kingdom reliefs, was to encircle the noses of chariot horses with cavessons, or sturdy nosebands.⁸⁸ Unless it was set with sharp or prickly points (a practice attested for India, but not for the Near East), the noseband was not especially effective in directing or turning a horse, but its braking power was considerable. When the Egyptian driver pulled back on both reins he would have restricted his horses’ breathing enough to bring them to a stop quickly, although undoubtedly with some commotion.⁸⁹

Perhaps it was also in Egypt that metal bits were first employed. The so-called “Hyksos” bit (see Figure 4.7) was designed as a supplement to a noseband. In order to improve the noseband’s lateral control, that is, the Egyptians attached to it two bronze cheekpieces, each in the shape of a wheel and cast with eight sharp studs on its inner face, and connected the cheekpieces with a snaffle in the shape of a bronze bar.⁹⁰ The studded cheekpieces undoubtedly did turn the team of draft horses in the desired direction, while the noseband—aided to some extent by the bronze mouthpiece—provided the driver with braking control. “Hyksos” is a misnomer for this type of bit, since it not only has also been found as far east as Mesopotamia, but also made its appearance long after the Hyksos kings had been driven from power. Certainly in use by the Amarna period, the “Hyksos” bit seems to have been an innovation of the fifteenth century BC.⁹¹

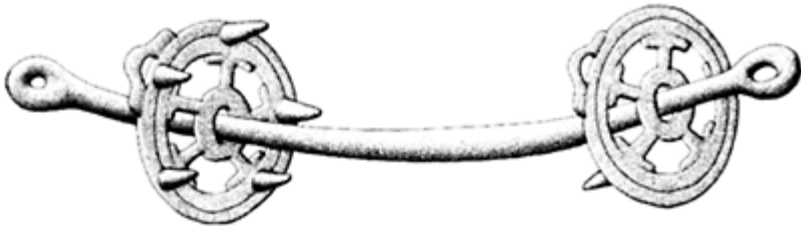


Figure 4.7 Bronze “Hyksos” bit found near Gaza, ca. 1500 BC; drawing by Brigitte Gies and Manfred Rigger in Hüttel 1981, Tafel 43c; courtesy Hermann Müller-Karpe and the C.H. Beck Verlag, Munich.

Although the mouthpiece or snaffle in the earliest “Hyksos” bits was a solid and straight bar, bronzeworkers in due course produced a jointed mouthpiece, in which two bronze canons were cast as an interlinked pair (see Figure 4.8). For all we know, the jointed snaffle may have been intended to be gentler to the horse’s mouth than a straight bar, but experience demonstrated that it was much more effective than was the straight bar in stopping or braking a horse. Precisely because it was flexible, the jointed mouthpiece foiled the horse’s attempt to take it between its teeth. A horse that did succeed in getting both canons between its premolars—no easy matter—would find that

as it clamped down on the outer ends of the canons the inner, linked ends would angle upwards into the roof of the mouth. Such discomfort must have quickly taught the horse to keep the bit between the diastemata, where it belonged. The braking power of the jointed snaffle, together with the directional control provided by the cheekpieces, made the noseband superfluous. The bit itself, attached to the lower termini of cheekstraps whose upper ends were attached to a strap behind the crown of the horse's head, gave the chariot driver all the control that he needed. In the Near East the jointed snaffle is attested as early as the Amarna period, and by the end of the Bronze Age was evidently quite common.⁹²



Figure 4.8 Two jointed snaffle bits from Luristan, ninth or eighth century BC; from De Waele 1982, fig. 51; courtesy Éric De Waele and the Institut Supérieur d'Achéologie et d'Histoire de l'Art at the Université Catholique de Louvain, Louvain-la-Neuve.

Metal bits, of both the straight bar and the jointed snaffle varieties, were occasionally used in Greece during the LH IIIB and IIIC periods. Organic bits had been used by the Shaft Grave charioteers at Mycenae⁹³ and may have been the only means of control until the LH III period, by which time low or “dropped” nosebands had come into use, perhaps under Egyptian influence. Even in LH IIIB Greece some chariot drivers continued to rely on nosebands, but at least a few horses were controlled by jointed snaffle bits.⁹⁴ Whether these were imported or cast by Aegean founders is not known.⁹⁵ From Protogeometric Greece a single bit has been found—in the heroic burial at Lefkandi—and it is possible that in the Dark Age (when bronze was very scarce) most horses in Greece were once again controlled by organic bits or by nosebands.⁹⁶

Although bronze bits were designed to control chariot horses, in a more limited way they must also have been employed for riding during the last centuries of the Late Bronze Age. Chariot horses were normally broken to carry riders, in the event that on the battlefield the chariot was disabled and the crewmen needed to mount one or both horses in order to make their escape. In most of the Great Kingdoms, therefore, a fair number of horse trainers and chariot crewmen must have at least occasionally ridden horses that were bridled with bronze bits, and often with jointed snaffle bits. The bronze controls did not immediately lead to better riding, perhaps because in the Near East and in Greece the chariot continued to be the normal use of the harnessed horse, and riding a poor second. But on the periphery of the Near East—in the steppe across the Caucasus mountains, and in Iran across the Zagros—there were fewer chariots and many more horses. Although the bronze bit (and especially the jointed snaffle), when eventually it crossed the mountains into Iran and the Pontic-Caspian steppe, would have improved the driving of the occasional chariot there, a far more important result seems to have been the improvement in riding. And once the techniques of good riding had been learned, and the necessary attitude of the rider, they seem to have spread—along with the bronze bit—throughout the steppe. In any case, the dissemination of the metal bit over much of Eurasia seems to have been simultaneous with the beginning of horseback riding as a way of life on the steppe.

Even in its simplest form—the straight rod or bar snaffle—the bronze bit provided increased control. In Luristan the straight bar was still a common form of mouthpiece in the early first millennium. In many areas of the Eurasian steppe and of Europe, however, soon after the bronze bit was adopted it was given one of several more effective forms. The experimentation shows that the innovation in bridling was a matter of considerable concern: all of the forms were attempts to maximize control of the horse or, to speak more bluntly, to inflict enough pain on the horse that it would be immediately responsive to its driver's or rider's wishes. A few of the forms—those, for example, with barbed mouthpieces or tacked cheekpieces—were so effective that they are today considered inhumane, and in much of the Western world are illegal (although, unfortunately, still available).

The jointed snaffle bit made its appearance in the Kura-Araxes valleys south of the Caucasus *ca.* 1000 BC, evidently the first bronze bit to be used in those valleys.⁹⁷ In the ninth century BC bronze bits came into use north of the Caucasus and in southern Russia and Ukraine. From the ninth through the seventh centuries almost six hundred bronze bits or components of bits from the Pontic-Caspian steppe have been catalogued (along with sixty-some organic cheekpieces).⁹⁸ All of the bronze mouthpieces recovered from the Pontic-Caspian steppe, like all of those from the Kura-Araxes area, are jointed snaffles (see Figures 4.9 and 4.10). By 700 BC the jointed mouthpiece was controlling horses as far eastward as the Altai mountains and as far to the west as the Rhine. The frozen horses of the Arzhan Kurgan were controlled by the jointed snaffle bit.⁹⁹ The same bit, although now made in stainless steel, is still very popular today.

Other early first-millennium experiments with mouthpieces, cheekpieces, or both were likewise designed to maximize control of the horse. The canons of a jointed snaffle could simply terminate in ring- or loop-ends, to which the reins were attached, and separate

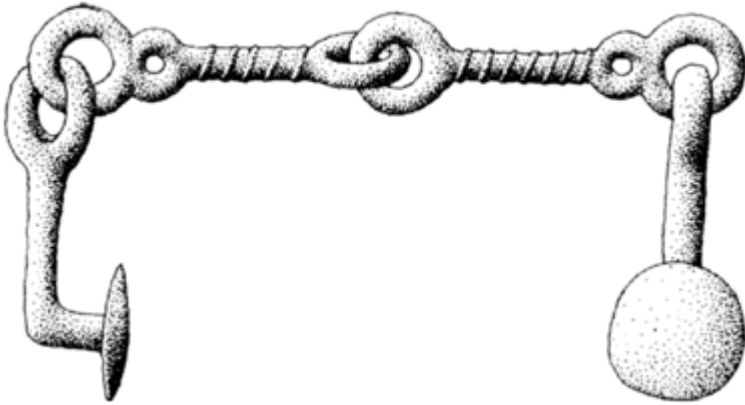


Figure 4.9 Jointed snaffle bit found near Kislovodsk, Russia (northern edge of Caucasus); from Dietz 1998, Tafel 6, no. 43; courtesy Franz Steiner Verlag, Stuttgart.



Figure 4.10 Jointed snaffle bit found near mouth of Psekups river, Russia (eastern shore of Sea of Azov), from Dietz 1998, Tafel 8, no. 59; courtesy Franz Steiner Verlag, Stuttgart.

cheekpieces could be mounted loose on the stems of the canons, like wheels on a stationary axle. If, however, the founder cast the cheekpiece together with the canon, the result was more punishing for the horse: a solid casting of cheekpiece and canon meant that when a rein was tugged not only would the snaffle be pulled against the corner of the horse's mouth, but the close edge of the cheekpiece would also be pulled smartly against the cheek. Solid casting of canon and cheekpiece in a jointed snaffle bit was thus favored

in many areas of Eurasia. On the Pontic-Caspian steppe the earliest of the solid casts seem to date from the eighth century BC.¹⁰⁰

Yet another possibility was to extend the bit, whether a straight bar bit or the canons of a jointed snaffle, several centimeters beyond the horse's lips. Such a "run-out" bit brought the principle of leverage to bear on the horse's mouth: the further the bar or canon extended from the side of the horse's mouth, the greater the pressure when the driver or rider pulled the reins. Mary Littauer noted that although jointed snaffles were made in the Late Bronze Age, the peculiar potentials of the run-out form were evidently not yet recognized. But when the jointed snaffle reappears in the ninth century it often has long canons, in some cases twice the length required to span the horse's mouth. In her discussion of the run-out bits produced in the ninth century BC Littauer suggests that "its proportions may denote a new understanding and enthusiastic exploitation of its special potential... When both reins were pulled on such long canons a considerable angle would be formed by their joint, and one that would be high enough to press painfully against the roof of the horse's mouth."¹⁰¹



Figure 4.11 "Severe" jointed snaffle bit; courtesy British Museum, London.

Most telling of all was the manufacture of cruel or "severe" bits (see Figure 4.11). Anderson emphasized that instead of casting bits in the form of smooth and cylindrical canons, whether single or jointed, bronzesmiths in Archaic Greece occasionally cast bits that had sharp edges, or even barbs.¹⁰² Such snaffles inflicted great pain on the horse, and

when texts refer to flecks of blood at the mouths of spirited horses we may assume that the snaffles by which these horses were controlled were quite severe. The disadvantage of all such bits was that they must have made horses unduly responsive and anxious, and must sometimes have panicked them. Although they enjoyed a vogue in Archaic Greece, severe bits were not often employed in temperate Europe or on the steppe.

All of the new bits were of course expensive: whereas the owner of a team of horses on the steppe in the second millennium BC could himself have been able to fashion snaffles out of wood or leather, and cheekpieces out of bone or antler, the bronze bit was necessarily produced by a professional bronzeworker. The bridling of a horse quickly became a very sophisticated matter. In Luristan, as we have seen, founders using the “lost wax” method vied with each other in casting decorative cheekpieces, often in the shape of animals.

Some of the best documentation for the introduction, or re-introduction, of bronze bits comes from Cyprus, where Vassos Karageorghis discovered more than two dozen in his excavations of the “royal” tombs of the eighth and seventh centuries BC.¹⁰³ As in central and eastern Europe, however, these bits were meant to control chariot horses: since the chariot still enjoyed great prestige on Cyprus in the eighth century, as a “heroic” accouterment, when a great man was sent to the underworld he was typically accompanied by a team of horses yoked to a chariot. All of the Archaic Cypriot bits are jointed snaffles, with the canons having a “twisted” surface and run-out lengths. The earliest is dated to the beginning of the Cypro-Archaic I period, *ca.* 750 BC.¹⁰⁴

We can best appreciate the extent of the bit revolution by looking at the extremes of its diffusion. C.J. Balkwill traced the westernmost progress of the innovation, as late in the second millennium BC the inhabitants of northern Italy, Switzerland, Austria, southeastern France and southwestern Germany began to abandon the wood or leather mouthpieces and the horn and antler cheekpieces with which they had traditionally tried to control their draft horses, and began using bronze snaffles and cheekpieces.¹⁰⁵ At first the forms of the new pieces were almost identical to the forms of their organic predecessors, a straight bar snaffle replicating in metal what had earlier been carved from wood.¹⁰⁶ But in the Ha B2 and B3 periods (the first quarter of the first millennium), more sophisticated forms made their appearance: bars with a “twisted” appearance, and so a relatively rough surface, bits in which cheekpiece and mouthpiece were cast together, and the jointed snaffle bit. By the seventh century BC the latter seems to have become the favorite.¹⁰⁷ Although riding may have become frequent already in Ha B, it will be recalled that the earliest representation of riding in temperate Europe seems to date from the Ha C period.

If we look four thousand miles to the east of Switzerland, to the Minusinsk Basin and the headwaters of the Yenisei river, we find that bronze bits, and in fact jointed snaffles, were in use by the eighth century. Bokovenko has shown that in the Tagar Culture of this region, the bronze mouthpieces and cheekpieces completely replaced the older bridles with their organic bits. The Tagar cheekpieces continued to have the form of the traditional horn or antler cheekpieces, but were now cast from bronze. The snaffles were jointed, and the canons terminated in round rings or stirrup-shaped openings, through which the reins were passed.¹⁰⁸ In the neighboring “Skythian Culture” of Tuva the same innovations are attested by the same time, and in reviewing the various bridling systems that were adopted in Tuva in the early Iron Age Bokovenko notes that some of them

continue in use today, virtually unchanged.¹⁰⁹ In Kazakhstan the story was much the same. Leonid Yablonsky has described how by the eighth century BC bronze (and iron) bits replaced organic bits in the wide area from the Aral Sea to the Pamirs and the Hindu Kush. Although the “Sakai” who lived in this part of Asia continued to make some of their cheekpieces from antler or horn, they now invariably used metal for the mouthpieces. And all of the “Saka” bits were jointed snaffles.¹¹⁰

It may be surprising that so important a development as the spread of the bronze bit, which must have profoundly affected a large part of the world, has attracted so little attention as to have gone unnoticed by most historians, including military historians. Part of the explanation for this neglect is that the innovation was nowhere remarked in our literary sources. In the Near East, where literacy was well established, the changes were less dramatic: bronze had been used for bits since the fifteenth century BC, and what changed in the ninth and eighth centuries was only the form. From western Iran and the Eurasian steppe, where the changes were revolutionary, we have no written records for this early period. In Greece writing was rediscovered in the eighth century BC, and the *Iliad* and the *Odyssey* were composed by 700 BC. New developments in bridling were not pertinent to Homer’s story of the Heroes, however, and in all of his poetry he made only one reference to the bit.¹¹¹ Herodotos, writing in the 430s BC, seems to have had no idea that for the Archaic Greeks good riding was still a novelty. Especially misleading for modern reconstructions of ancient history has been Herodotos’ story about Kimmerian, Skythian and Median actions in the seventh century BC: nowhere in his account did Herodotos note their prowess as riders, or even mention that they were riders. Finally, Xenophon’s treatises on horsemanship and on cavalry command never hint that the routine use of bronze bits in Greece (and everywhere else in Europe) was relatively recent. Xenophon heartily recommended that his readers bridle their horses with jointed snaffles,¹¹² but he was evidently unaware that from the Trojan War until shortly before the birth of Solon horsemen in Greece may never have seen a jointed mouthpiece, and may have had nothing better with which to control their horses than nosebands or organic bits. Since the ancient authors said nothing about the matter, it is not surprising that nineteenth-century philologists and historians had no idea that great changes in the bridling of horses had occurred in Eurasia early in the early Iron Age.

By the 1930s, when serious hippology began, archaeologists had caught a glimmer of the bit revolution. Gertrud Hermes argued that in neolithic Europe horses were not yet either driven or ridden, and that bits suddenly came into use in Europe at the end of the “ältere Bronzezeit,” which she dated *ca.* 1450 BC. Hermes’ chronology was not quite right, and erroneous too were her conclusion that bronze and organic bits came to Europe at the same time, and her assumption that although the organic bits were less prestigious they were no less effective than their metal counterparts.¹¹³ Although his 1939 study did not connect the beginnings of good riding with the progress from organic to metal bits, Joseph Wiesner did improve on Hermes’ chronology and showed that in temperate Europe metal bits were not used before 1000 BC.¹¹⁴ In 1941 prehistorian Grahame Clark, making good use of what Hermes had learned about horses in neolithic Europe, concluded that in central and northern Europe no bit of any kind was attested before *ca.* 1600 BC, that when introduced in the middle of the second millennium BC the European bits were made of organic material, and that they were used not by riders but by chariot drivers.¹¹⁵

By mid-century Soviet archaeologists had assembled considerable evidence that—just as in temperate Europe—in central Asia and on the PonticCaspian steppe bronze bits did not come into use until late in the second or early in the first millennium. This material evidence was meticulously assembled by Franz Hančar, and in 1956 was published in his gargantuan book on ancient horsemanship. Whereas earlier hippologists had assumed that on the steppe men were good riders already in the third and second millennium BC, Hančar concluded that even on the steppe it was not until early in the first millennium BC that men were able to ride well enough to handle a weapon, and specifically the bow, while on horseback. He devoted many pages and an array of tables to the argument that mounted combat commenced when it did because it was only then that the steppe populations adopted the bronze bit.¹¹⁶ The succinct conclusion to Hančar's lengthy argument is difficult to improve upon:

What was the decisive element in the emergence of the mounted archers? Certainly, it was the control of horses by means of bits that, beginning *ca.* 800 BC, were now made of bronze and made in a variety of experimental forms. Throughout the steppe, from the lower Danube to the Yenisei, these made their appearance at the same time that mounted archers began to appear.¹¹⁷

In 1961 J.K.Anderson's much smaller and much more readable book on Greek horsemanship identified changes in bridling as the *sine qua non* for the development of good riding in Greece. These changes were made, Anderson concluded, late in the eighth and in the seventh century BC. Through the Mycenaean period and the Dark Age, he observed, artistic representations of riders in Greece were very few, and the riders appeared awkward. Not until the seventh century do vase painters depict competent riding. Anderson called attention especially to the use of the jointed bit and to a variety of severe bits that were used in Archaic Greece, first perhaps at Corinth and then throughout the Greek world.¹¹⁸ A few years after Anderson's book appeared Mary Littauer brought her hippological expertise to bear on the question, clearly explaining the effectiveness of the jointed snaffle and the run-out bit that became popular in the Near East in the ninth century and in Cyprus in the eighth.¹¹⁹

Unfortunately, the insights that had been reached by the 1950s were not widely communicated. Hančar's big *Pferd* was scarcely reviewed, and went almost unnoticed in journals that linguists or Near Eastern and Aegean specialists were likely to read. As a result, few scholars (especially in the English-speaking world) who were interested in antiquity were aware of what Soviet archaeologists had or had not found on the steppes. Anderson's conclusions about Greek horsemanship were, as usual, assumed to have no bearing on the world outside Greece, and Littauer did not attempt to extrapolate her conclusions about Near Eastern bits to the wider picture.

At several junctures scholars were sent down the wrong trails by red herrings. In 1961 K.F.Smirnov published a typology of the organic bits used in the Volga and Ural region during the Timber Grave and Andronovo periods, and although the typology itself was valuable Smirnov's interpretation of the material evidence was not well informed. When he wrote, no chariot burials had yet been found in Timber Grave and Andronovo contexts (the fourteen Sintashta-Petrovka chariot burials were excavated in the 1970s). Unable to

believe that chariots could have been used in the steppe during the Timber Grave and Andronovo periods, Smirnov concluded that the bits in question had been used by riders rather than drivers.¹²⁰

In 1966 matters were further confused by Hanns Potratz's *Die Pferdetrensen des alten Orient*, which was supposed to be the definitive study of bits not just in the ancient Near East but in all of the ancient world. While much of Potratz's technical and typological work was sound, his broader conclusions were at best arbitrary and too often wrong. Although he agreed that in the Bronze Age the metal bit was restricted to the Near East, and that only in the first millennium did it appear in the Eurasian steppe,¹²¹ he did not recognize (as Hančar so clearly had) that this quite dramatic change had anything to do with an improvement in riding, or indeed that riding before the first millennium was in any need of improvement. Potratz believed that the inhabitants of the steppe had been riding well ever since the horse was first domesticated, and that all along they had been able to keep their mounts fully under control either with organic bits or with no bits at all.¹²² According to Potratz the bronze bit came into use in the ninth and eighth century because it was suddenly stylish or fashionable: Assyrian chariot horses—which were controlled with bronze bits—caught the wider world's attention, and introduced the vogue of the metallic bit.¹²³ In his careful typology of early bits in Europe, Hans-Georg Hüttel confirmed that organic bits made their appearance in Europe in the first half of the second millennium BC, and that not until toward the end of the millennium were the organic materials replaced by bronze. Like Potratz, however, Hüttel missed the significance of the change, because he assumed that all through the Bronze Age riders in the steppe and in Europe had been controlling their horses very well either with organic bits or, in some societies, without bits of any kind.¹²⁴

Also important in obscuring the bit revolution were Dereivka and Gimbutas. In the aftermath of the Second World War, belief in a northern European homeland of the PIE speakers deservedly shriveled. The primary beneficiary of its demise was the thesis that the PIE speakers' homeland was the Pontic-Caspian steppe, and in support of this thesis one argument of great potential importance was the undeniable fact that the steppe was the natural habitat of the horse. That is not to say that most steppe archaeologists promoted or even endorsed the argument that the PIE speakers' diffusion owed much to their riding of horses. Many scholars who specialized in the archaeology of the steppe insisted all along that riding did not become important there until after the Bronze Age. Advocated for decades by M.P.Gryaznov, Sergei Rudenko, Anatoly Khazanov, and Elena Kuzmina, this apparently was the majority view in the old Soviet Union and remains so now in Russia and the new republics. But from the 1960s through the 1980s what most scholars thought on the other side of the Iron Curtain was widely ignored on this side, and here Gimbutas' theories were widely influential. Her insistence that horse riders from the steppe had begun conquering Europe in the fifth millennium BC was based in large part on the extraordinary finds at Dereivka. The "head and hoofs" burial of the stallion that Telegin found in 1962, at the eastern edge of the site, convinced many historians (including the present author) that already *ca.* 4000 BC the inhabitants of the steppe were experienced and competent riders, and that the ridden horse was in fact central to their way of life. Anthony's analogy with the Plains Indians of North America was widely accepted, and his further demonstration that the stallion's premolars bore signs of serious bitwear was, for a time, conclusive. By 1997, when Anthony and Telegin learned that the

stallion had been buried in the first millennium BC rather than the fifth, the damage had already been done: a generation of scholars had grown accustomed to thinking of the neolithic steppe dwellers as formidable riders, and whatever changes in bridling may have occurred *ca.* 1000 BC could hardly have been of much importance.

On the question of when good riding began the progress of scholarship has thus for more than forty years been a series of detours and wrong turns. Having gotten our bearings by looking at the revolution in bridling that took place early in the first millennium BC, we can now set off in the right direction.

5 PLUNDER

When riders discovered, with the help of the bronze bit, how to assert themselves as masters of their mounts, they could finally sit forward, on saddles or cloths positioned just behind the withers. By the beginning of the ninth century BC good horsemanship was certainly in evidence in the lands just to the east and north of Assyria. Whether men in the eastern zone of the Eurasian steppe were competent riders as early as 1000 BC depends upon the dating of the Charchen mummies. We may assume, however, that in parts of the steppe good riding had begun to appear by the ninth century, and that by the seventh a rider culture was well established as far to the east as Arzhan, at the headwaters of the Yenisei river. In the heartland of the Near East—the lands south of the Taurus mountains and west of the Zagros mountains—men were somewhat slower to learn the techniques of good riding, perhaps because here the chariot still served well enough for rapid transport. In Greece good riding seems to have begun toward the middle of the seventh century, and in temperate Europe perhaps soon after that.

Once they were no longer worried about their ability to control their horses, riders could begin to play a role in warfare. The advent of mounted combat was not so immediately revolutionary as either the beginning of chariot warfare *ca.* 1700 or the end of the chariot's dominance and the beginning of offensive infantry *ca.* 1200 BC.¹ Mounted combat did nevertheless mark an important step in the evolution of warfare, and eventually—in the seventh century BC—it seems to have unsettled much of the civilized world. In the illiterate world of the steppe it may have unsettled people already in the preceding century.

Essential for the success of the early riders in battle was their effectiveness with the bow. This was probably a development from skills that had been acquired by hunting on horseback. As the relief on the limestone altar from Gordion shows, one of the first practical applications of riding was hunting, and for bringing down either prey or predator riders would have found the bow the optimum weapon, especially in open country such as the steppe. Shooting an arrow and hitting a target from the back of a running horse, however, was a skill that a rider could attain only through long practice. It also required a horse completely obedient to his rider's voice and body commands, since in the act of shooting both of the rider's hands were occupied with the bow. We have seen that already in the early ninth century BC the Assyrian army included mounted archers, but they were not yet confident riders: the archer depended upon an escort, who handled the reins of both his own and the archer's horse. The Assyrians' barbarian opponents had by that time reached a much higher level of horsemanship, each rider being able to control his horse with voice and body commands while shooting his bow.

How universal the bow was among the steppe-dwellers of the Iron Age is shown especially by the arrowheads that have been found in their graves. In the Pontic-Caspian steppe the graves of most males in the period after *ca.* 800 BC contain arrowheads,

ranging from a handful to more than a thousand.² In the civilized world bows had been the weapons of chariot warriors all through the Late Bronze Age, and manufacturing a good bow was a fine art. The chariot warrior's weapon had been a large composite bow, made from wood, sinew and bone.³ How prized was an especially well made bow is shown by the Ugaritic myth known as the *Tale of Aqhat*: the myth focused on Aqhat's bow, which had been made by the craftsman god Kothar wa-Khasis, and which the goddess Anath so coveted that she slew Aqhat in order to take it. The reflex bows that are shown in the hands of "Skythians" (see Figure 5.1) are considerably smaller than the angular bows used by Bronze Age chariot warriors, but may have been just as intricate. One specialist estimated that from tip to tip the strung bow carried by riders on the Pontic-Caspian steppe was no more than 60 cm long, while other estimates have been slightly higher. A longer bow, measuring well over a meter, seems to have been used by the nomads who buried their chieftains at Pazyryk.⁴ Whatever its size, the Skythian bow was much more powerful than a self bow, thanks to its construction and its reflex design. It is described by Renate Rolle as "a small composite bow, i.e. assembled from a single wooden core whose ends were additionally reinforced with special coverings (string wrapped round and glued on, together with plates of bone."⁵ The Skythians carried both bow and arrows in a single case that Greek authors refer to as a *gorytos*. The arrowheads



Figure 5.1 Skythian bowmen on gold plaque from Kul Oba kurgan (K.O. 65), in Crimea, fourth century BC; courtesy State Hermitage Museum, St. Petersburg.

that have been found in the Pontic-Caspian steppe are small and light, many of them less than three cm in length and less than five grams in weight.⁶ Although a single arrow that hit its target may seldom have been lethal, a practiced archer could shoot as many as a dozen arrows in a minute.⁷

A special skill perfected by horsemen in Iran and on the Eurasian steppe was the so-called “Parthian shot.” The rider (see Figures 5.2 and 5.3) twisted his upper body, faced the rear, and shot his arrow at a pursuer.⁸ In battle this was not a desperate, last-ditch effort to avoid imminent death at the hands of his pursuers, but a tactic designed to give the “Parthian” a clear advantage over them. If both the Parthian and his pursuer were riding at a gallop, the Parthian would in effect be shooting a bow with a wind at his back, while the pursuer would be shooting into the wind.⁹ Shooting while in retreat was essential when hunting dangerous animals—animals that charge a hunter—and Rostovtzeff noted that some of the earliest representations of “the Parthian shot” show its use against lions and wild bulls. Although the skill was probably perfected for the hunt, a more significant application was in combat with other horsemen. Across the Tauros or Zagros ranges from Assyria the technique had obviously been mastered already at the beginning of the ninth century BC, since the Ashurnasirpal relief in the British Museum (Figure 4.2) shows two of the king’s opponents shooting back at their Assyrian pursuers.¹⁰



Figure 5.2 Bronze figurine of a horseman atop a Greek lebes, fifth century BC; courtesy British Museum, London.

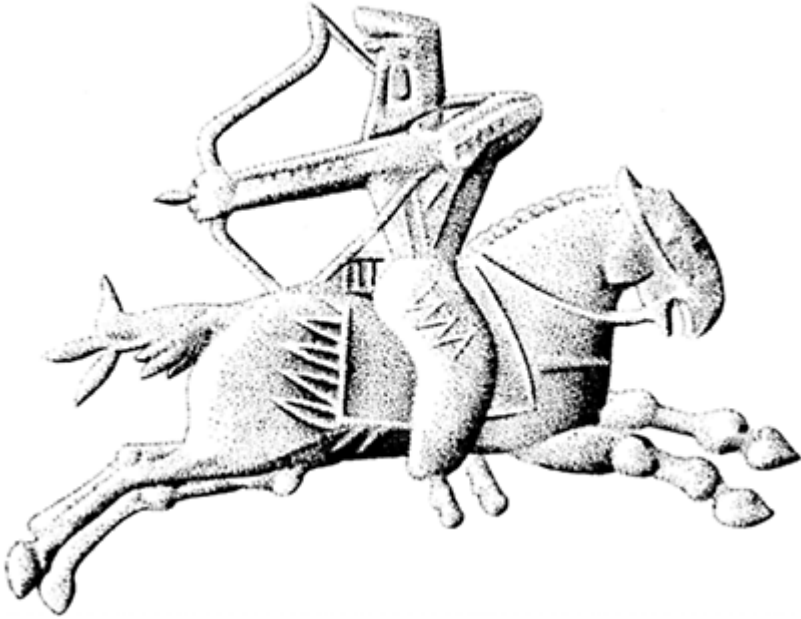


Figure 5.3 Fragmentary cylinder seal, first millennium BC, depicting a rider making a “Parthian” shot; drawing by Jaap Morel in Littauer and Crouwel 1979, fig. 85; courtesy Mary Aiken Littauer and Joost Crouwel.

The “Parthian shot” was of no use against infantrymen, because infantrymen could not pursue men on horseback. More broadly, the mounted warriors’ skill with the bow should not have been especially troubling for infantrymen, who had long experience dealing with archers both on foot and in chariots. Infantrymen, in fact, themselves included a strong component of archers. NeoAssyrian armies depended especially on a long line of “archer-pairs.” Each pair consisted of two men on the ground, one shooting a composite bow, and the other—standing slightly in front and to the left of the archer—holding a shield to protect the archer and himself.¹¹ The formation of archer-pairs was also commonly used by the Persians: the *sparabara* was a shield-bearer whose business it was to protect an archer, by means of a huge wicker shield that rested on the ground.¹² How well archers on the ground fared against archers on horseback or in chariots is not certain, but there are reasons for thinking that they must have done relatively well. The mounted archers could change their positions, encircling or flanking their enemies on the ground, and could easily escape if the battle went against them. Archers on the ground, however, had larger bows than their mounted opponents had, were better able to aim their shots, and were far better protected. The rider’s horse was a large target, and if his horse was wounded the rider was in desperate straits.

The men on horseback, however, had one enormous advantage. They could suddenly transform themselves from archers into hand-to-hand warriors. They were able, that is, to *charge*, and in ancient battles the psychological effect of the charge was potentially devastating, since it could panic a stationary force into flight and disintegration. On this score archers on the ground were extremely vulnerable. Here I would stress that the charge of men on horseback must have been quite unlike anything that could have been done in the Bronze Age with chariots. Chariot warriors could threaten with the bow, but the closer a chariot warrior came to an opponent on the ground the less of an advantage the chariot warrior had: from a chariot it was very difficult to use a hand-to-hand weapon. Like the chariot warriors, mounted warriors could use their bows at long-range, but when the moment seemed propitious they could put the bows in their cases, draw their swords, and—as a concerted unit—charge. Riding down opponents who were on the run, and attacking them with slashing swords or with short thrusting spears, they would have been able to destroy an infantry. Greek vase paintings depict barbarian riders carrying a cutlass or some other kind of slashing sword as a sidearm or secondary weapon, and a Klazomenian sarcophagus from *ca.* 490 BC portrays (see Figure 5.4) riders charging at the gallop, with swords raised for a slash against men on the ground.¹³

The campaigns of the Huns in the fourth and fifth centuries, of the Magyars in the tenth, and of the Mongols in the thirteenth and fourteenth show what a horde of mounted warriors could do in the days before gunpowder. With the advent of musketry in the sixteenth century (these guns were all loaded through the muzzle, and that could not be done on horseback) cavalry began its slow decline.¹⁴ But so long as the most effective long-range weapon was the bow and arrow, a multitude of archers on horseback, all of them armed with swords for use in a charge, was a dreadful sight. The Huns and the Mongols owed their initial successes to their skill as mounted archers,¹⁵ although by the time of their brief supremacies in eastern Europe they depended on a much more complex set of resources. In their heyday Attila and Genghiz Khan each commanded an enormous number of men, drawn from many vassal kingdoms. Ancient writers, who had no way of knowing, estimated that Attila's forces numbered half a million men, and that 165,000 or maybe 300,000 dead were left on the Catalaunian Fields in 451. Although at their



Figure 5.4 Lower register, painted lid of Klazomenian sarcophagus, early fifth century BC; courtesy British Museum, London.

strongest both Huns and Mongols had infantry and even siege trains, their riders were what had enabled them to construct their vast coalitions in the first place. A favorite tactic of the Mongols was to surround their enemies, an encircling ring of horsemen tightening continuously until the defenders were reduced and exhausted, at which point the Mongols would charge and with their swords annihilate the defenders.

A great advantage of the purely mounted force, in which every man was on horseback and in which two horses were in reserve for every horse at work, was that it could cover long distances in a very short time and so could take its opponents by surprise. An Assyrian, Greek, or Roman army on the ground, whether purely infantry or a mixed force of infantry and cavalry, expected to proceed about fifteen miles a day. The cavalries of ancient, medieval and early modern Europe were able to improve on that rate, but because their horses needed to be rested and pastured for a good part of each day, European and nineteenth-century American cavalry typically rode no more than thirty miles a day. When required, however, they could do much more. In autumn of 1862, during the American Civil War, J.E.B. Stuart took his Confederate cavalry of 1800 horsemen and four artillery pieces around an entire Federal army, and on his return he covered the ninety miles from Chambersburg, Pennsylvania to Leesburg, Virginia, in thirty-six hours.¹⁶ The mounted forces of the steppe nomads were capable of even greater speeds: consisting of ponies inured to work and deprivation, and of men who spent their lives on horseback, the attack forces of the Huns, Magyars and Mongols could cover as much as seventy miles a day, even in mountainous terrain.¹⁷

With such mobility, armed horsemen were superbly equipped for an activity that for men on foot was fraught with peril: the raid. A raiding party of horsemen could reach its destination quickly, take the occupants by surprise, and ride off before any military force of consequence could arrive at the scene. When conducted against an isolated dwelling or a small settlement by a handful of riders, a raid was only a private crime, too petty to rise to the level of historical significance. But when hundreds or even thousands of riders banded together, to attack and plunder a target of some importance, the historian takes notice. And at a few periods in history raiding brought disaster to so many people that the course of history was itself altered. Although the raiding campaigns of armed riders are known best from Late Antiquity and the medieval period, something of the sort (although on a much smaller scale) seems to have occurred late in the second century BC when Sakai horsemen destroyed the Greco-Bactrian kingdom in northeastern Iran, and then ran amok in Mesopotamia. I shall argue in this chapter that in the civilized world a harbinger of the devastating raids that were to come appeared in the seventh century BC.

The emergence of good horsemanship in the early Iron Age seems to explain, that is, an otherwise obscure episode in the history of this period: the brief intrusion of the Skythians and Kimmerians into the history of Greece and the Near East, especially Anatolia. Herodotos and a few other Greek writers had stories about this, but Herodotos lived some two hundred years after the Skythian and Kimmerian misdeeds that he describes. On several points his account is flatly wrong, and on other matters it is misleading. The Skythians and Kimmerians of the seventh century BC were not, it seems, the migrating nations that Herodotos makes them out to be, but the first of the riding raiders, who capitalized on their skills to plunder and terrorize communities scattered over much of the Near East. Neither Herodotos himself nor the many people among whom he made his inquiries had direct experience with riding raiders, the last of whom

had been suppressed by Alyattes of Lydia early in the sixth century BC. As a result, by the time that Herodotos wrote his *Histories* the Kimmerians and Skythians had to a large extent been transmogrified into “national” entities, peoples on the move because they had been forced out of their traditional homelands. Nevertheless, the predatory character of the Kimmerian and Skythian actions is visible just below the surface of Herodotos’ account, and historians have recently begun to recognize that what motivated the Kimmerians and Skythians was not the need for land but the desire for loot.¹⁸

In Herodotos’ narrative of the imperial history of western Asia, intervening between the rule of the Assyrian kings and the rule of the Median kings was a twenty-eight-year period of Skythian “empire” (*archē*). This Skythian *archē*, which ended shortly before Kyaxares’ capture of Nineveh, was characterized by lawlessness as the Skythians plundered far and wide:

For twenty-eight years the Skythians ruled Asia, and in their outrageous arrogance they devastated everything. They not only assigned and exacted tribute from one and all but in addition, by riding all around (περιελαύνοντες), each group plundered whatever they could.

(1.106.1)

The area dominated and plundered by the Skythians, according to Herodotos, was all of Upper Asia, which is to say all of Asia east of the Halys river (today the Kizilirmak, in north-central Turkey).

Herodotos’ sources recalled that at the very same time that the Skythians were lording it over Upper Asia, the people of Lower Asia—the land to the west of the Halys, most of which was ruled by the Lydian kings—were suffering from the violence of the Kimmerians.¹⁹ The Skythian and Kimmerian miscreants were thus exact contemporaries, having arrived on the scene in tandem. The Kimmerians, says Herodotos, had once lived in the Crimea, to which they gave their name, but they were expelled from their ancestral home by the newly arrived Skythians. The latter were not satisfied merely to drive the Kimmerians out of the Crimea, but continued to chase them all the way through the Caucasus and into Anatolia. Once there, however, the pursuers lost the scent of their quarry, and while the Kimmerians headed west and over the Halys the Skythians took a wrong turn and found themselves in Media. Forgetting the original purpose of their expedition, the Skythians proceeded to conquer Media and so launched their lawless twenty-eight-year *archē* over Upper Asia. What Herodotos presents us with, in other words, is a Kimmerian migration, the entire Kimmerian ethnos having been uprooted and forced to roam about Anatolia as a homeless horde of men, women, and children. The Skythians are not migrators to quite the same extent as the Kimmerians, since only the Skythian men pushed on south of the Caucasus, leaving their women behind on the steppe (Herodotos informs us that in their husbands’ twenty-eight-year absence the Skythian women took their slaves as lovers, and the sons born from these irregular unions formed an army that tried but failed to bar the elderly Skythians’ return when the twenty-eight years were over).

Ever since critical history began, scholars have recognized that much of what Herodotos gives us is silly.²⁰ Near Eastern sources know nothing at all of a “Skythian empire,” and for all sorts of reasons it is impossible to accept Herodotos’ story of the

Skythians' chase of the Kimmerians. Because of its liabilities, Herodotos' entire account of a Skythian-Kimmerian *archē* has often been tossed out as unusable.²¹ If, however, we set aside Herodotos' explanation of where the Skythians and Kimmerians came from, and focus on his account of what they did, we may isolate something of value. What the Skythians and Kimmerians did, we may assume, was observed by contemporaries and especially by the victims and was remembered by later generations. On the other hand, where these desperadoes had come from was a matter for guesswork, speculation, and story-tellers, and the aetiology we find in Herodotos is merely one attempt to provide an answer. We may reject the aetiology, but unless we have compelling evidence to the contrary we would be ill-advised to throw out the story of what the Skythians and Kimmerians did. The evidence we have indicates that much of what Herodotos and his contemporaries said about these people was true.

Our most reliable information on the Skythians and Kimmerians comes from seventh-century Akkadian texts. Assyriological scholarship of a high order is now available on these texts, especially those—now close to sixty in which reference is made to Kimmerians, or *Gimirrai*.²² An exciting discovery by Assyriologists more than a hundred years ago was that the stories Herodotos told about Kimmerian devastation in western Anatolia were to some extent corroborated by cuneiform sources. In particular, these sources confirmed that in the seventh century BC the Kimmerians had attacked the kingdom of Lydia, the capital of which lay at Sardis, on the Hermos (Gediz) river. The Assyrian king Ashurbanipal, who ruled from 668 to 630 BC, never tired of repeating how he had saved Gyges, king of Lydia, from ruin at the hands of the dreadful Kimmerians. Early in his reign, Ashurbanipal reported, a rider came to Assyria from a land so distant that none of the king's wise men had ever heard of it, and nobody in Nineveh spoke the language of the rider. When eventually an interpreter was found, the rider identified himself as a servant of *Gugu*, or Gyges, king of Lydia, and said that his mission was to ask the help of Ashurbanipal and the gods of Assyria against the Kimmerians, who were devastating Lydia.

To advertise this testimony to his and his gods' prestige, Ashurbanipal composed a text which when written out took the form of a thirty-three-line Akkadian inscription, and he ordered that it be displayed prominently on a prism-shaped block. On at least five occasions in his reign he had the inscription re-published, sometimes with slight revisions, and each time on a new prism. Here is the translation that Mordechai Cogan and Hayim Tadmor supplied for the inscription:²³

Gyges, king of Lydia (*Gūgu šar māt Luddi*) a district by the passes of the sea,

a distant place, whose name the kings, my ancestors, had not heard, the god Ashur, my begetter, revealed word of my kingship to him in a dream:

"Ashurbanipal, king of Assyria, the beloved of Ashur, king of the gods, lord of all—Lay hold of his princely feet!

Revere his sovereignty, Implore his rule. As obeisance and tribute-bearing, let your prayers come before him.

By invoking his name, conquer your enemies!" On the (very) day he had this dream, he dispatched his rider to inquire of my well-being.

Through his messenger, he sent to relate to me the dream that he had.

From the day he laid hold of my royal feet the Cimmerians
(*Gimirrāya*)

(who) harass his countrymen, a wicked enemy,
who had never honored my ancestors or me, had never laid hold of my
royal feet, he captured alive in the midst of battle with the aid of Ashur,
Marduk,
Ishtar, the gods, my lords.

Out of the Cimmerian village heads which he captured, two village
heads he put in handcuffs, iron manacles, shackles and iron fetters, and
together with his rich gifts, to Nineveh, my capital, he sent into my
presence.

He kissed my feet.

(Thus) I experienced the might of Ashur and Marduk.

This is the edifying story that appeared on one prism after another, through five recensions, over the first twenty years of Ashurbanipal's reign (the first recension seems to date from the year 665 BC).²⁴ In a sixth and final recension, published after 645 BC and preserved for us on the so-called "Rassam Cylinder," Ashurbanipal updated the story, adding a sobering postscript to the saga of Gugu and the Gimirrai, or Gyges and the Kimmerians:

The riders which he constantly sent to inquire of my well-being broke off. I was informed that he had become unfaithful to the word of Ashur, the god, my begetter, and that he trusted in his own strength; he had become proud. He had sent troops to aid Psammetichus, king of Egypt, who had thrown off my yoke. I prayed to Ashur and Ishtar: "Let his corpse be cast before his enemy; his bones carried off (i.e., scattered about)." That which I implored of Ashur, came about. Before his enemies his corpse was cast; his bones were carried off. The Cimmerians (*Gimirrāya*), whom he had defeated by invoking my name, rose up and swept over his entire land. After his demise, his son inherited his throne. (As a result of) the harsh treatment which the gods, my support, had given his father, his begetter—in response to my prayer—he sent his messenger, laid hold of my royal feet and said: "You are the king singled out by god. You cursed my father and so, misfortune befell him. Unto me, your reverent servant, be gracious, so that I may bear your yoke."²⁵

This devastation of the "entire land" of Lydia by the Kimmerians, and the death of Gyges, obviously had occurred by ca. 645 BC. Ashurbanipal's inscription has usually been interpreted to mean that the Kimmerians killed Gyges,²⁶ but that is not quite what Ashurbanipal said. The phrase, "Before his enemies his corpse was cast; his bones were carried off," seems to mean that some time after Gyges' death and burial the Kimmerians returned to Lydia and ransacked his tomb.²⁷ The Karniyarik Tepe, which is quite certainly the tumulus under which Gyges was buried, was robbed in antiquity, although it is of course impossible to determine from the material evidence when and by whom it was

robbed.²⁸ Perhaps it was robbed again in the Persian or the Hellenistic period, but we may trust the Rassam Cylinder that the Kimmerians were the first to do so. Because these events are not yet included in the preceding edition of the inscription, published in 650/49 BC, the Kimmerians' plundering of Gyges' tomb probably occurred some time between 650 and 645 BC.²⁹

To summarize Ashurbanipal's version of all this, early in his reign Gyges and the Lydians suffered repeatedly at the hands of the Kimmerians. Then, thanks to the intercession of Ashurbanipal and the divine blessing of Ashur and Marduk, the attacks ceased for many years. Finally, however, because Gyges had turned his back on the Assyrian gods, the Kimmerians resumed their attacks, swept over the entire land of Lydia, opened his tomb and scattered his bones. In our terms, the Kimmerian assaults on Lydia would have begun in the 670s or early 660s BC, and the worst of them occurred ca. 650 BC or a little later.

That the Kimmerians' most memorable visit to Sardis occurred in the reign of Gyges' son, Ardys, is also indicated by Herodotos' report (1.15) that during the reign of Ardys the Kimmerians sacked the lower town at Sardis, but not the acropolis. Herodotos' account, however, implies that the Kimmerians did not begin to be a problem until after Gyges' death, and that is clearly wrong. Some slight archaeological evidence has been proposed for the Kimmerian assault on Sardis, but the burning of the "House of Bronzes" that George Hanfmann's team discovered seems to have occurred long before the reign of Ardys.³⁰ It is very likely, as the Assyrian inscriptions suggest, that the Kimmerians on more than one occasion visited and terrorized Sardis.

The Greek cities in Anatolia suffered as much as did Sardis. Especially important on this topic are fragments of the poetry of Kallinos of Ephesos, a contemporary of the Kimmerian attacks. In his songs Kallinos referred to the Kimmerian sack of Sardis, but described the Kimmerian attack as being directed more broadly **ἐπὶ τοὺς Ἡσιονῆας** an ethnonym which Demetrios of Skepsis supposed meant "the Asians," which is to say all of the inhabitants of western Anatolia. As Ephesos braced for Kimmerian attacks, Kallinos composed his martial elegies to strengthen the resolve of his fellow citizens, and to encourage the young men to risk a glorious death on the battlefield in order to defend their city. His hexametric line, **Νῦν δ' ἐπὶ Κιμμερίων**

στρατὸς ἔρχεται ὀβριμοεργῶν, was translated by J.M.Edmonds as, "Now comes upon us the army of the dastard Cimmerians."³¹ The "dastard" is slightly misleading, and we may translate it instead as, "Now comes the army of the mighty Kimmerians."

At Ephesos the Kimmerians probably did no damage within the city, but they ruined the temple of Artemis, which stood just to the northeast of the city, in a swampy plain. The Kimmerian assault on the temple is mentioned in the *Hymn to Artemis* written by Kallimachos, who seems to have drawn his information from Kallinos or some other Archaic poet. According to this source a host of "mare-milking" Kimmerians, as numberless as the sands of the sea and led by a man named Lygdamis, violated the temple of Ephesian Artemis.³² The name "Lygdamis" is echoed by the name *Dugdammē* in Ashurbanipal's inscriptions, and this warlord seems to have perished in Cilicia a few years after his sacking of the Artemision.³³ By the middle of the sixth century BC the Kimmerians were no longer a threat, and the Ephesians rebuilt the Artemision on a grand scale.

Elsewhere in Anatolia several small cities were said to have been destroyed by Kimmerians. A poem about the cities on the Black Sea coast reports that at Sinope, which Greeks seem to have founded on the southern shore of the Black Sea in the eighth century BC, the first city was destroyed by Kimmerians.³⁴ Other sources report that Kimmerians also destroyed Magnesia, a Greek city on the Meander river, equidistant from Miletus and Ephesus and about fifteen miles from the sea. Antandros, on the Aegean coast opposite the island of Lesbos, was once called *Kimmeris* because, allegedly, the Kimmerians had once occupied it.³⁵

Late in the eighth and early in the seventh century Midas of Gordion had ruled a great kingdom in northwest Anatolia, and among the Greeks his name became a byword for wealth, especially gold. So long as Phrygian power lasted the inhabitants of western Anatolia would have been protected from the Kimmerians, but apparently Midas' wealth was a magnet for the raiders and his kingdom was one of their first victims. Greek legend had it that after a Kimmerian attack on his kingdom, Midas committed suicide by drinking bull's blood.³⁶ An independent tradition recalled that at an otherwise unknown village in Phrygia called Syassos the Kimmerians discovered a vast supply of wheat, which provided them with food for a long time.³⁷ Chronographers dated Midas' death either to 676 BC (Apollodorus) or 696 BC (Eusebius). Perhaps, as Ivantchik concluded, the Kimmerian attacks on Phrygia and the death of Midas occurred in the mid 670s.³⁸ But because all the references to *Mita* in the Assyrian annals date from 717 to 709 BC, and because the classical Greeks were quite sure that Midas was considerably earlier than Gyges, it is more likely that the Kimmerian raids on Phrygia and the death of Midas occurred in the first or second decade of the seventh century BC.

For the Assyrians the Kimmerians were a matter of concern already in the reign of Sargon II (721–705 BC). They appear first in connection with Sargon's eighth campaign, in 714 BC. In three tablet-letters that the young crown-prince, Sennacherib, sent to his father, the son reports with some satisfaction that the Kimmerians have defeated the king of Urartu, Sargon's chief rival.³⁹ Three other letters, sent to Sargon by various officials, also refer to the Kimmerians, always in connection with hostile movements, though not directed against Assyria.⁴⁰ It is probable, however, that in the end Sargon himself was defeated and killed by Kimmerians. We know only that in 705 BC Sargon was killed in battle against an opponent named Ešpai. That Ešpai was the leader of Kimmerians is a conjecture, but a reasonable one, based on a badly mutilated tablet referring to the death of an Assyrian king in a foreign land. Although the name of the land is mostly gone from the tablet, the initial syllable *Gi-* is still legible (along with some indications that the second syllable began with an *m*).⁴¹ If it was Kimmerian horsemen who defeated and killed Sargon the effect on Kimmerian morale and ambition would have been enormous: until 705 BC never had an Assyrian king been killed in battle.

No reference to the Kimmerians has yet been found in texts from the reign of Sennacherib, the last half of which is poorly documented, but they appear frequently in tablets and inscriptions from the reign of Esarhaddon (681–669 BC). In three inscriptions Esarhaddon boasted of a victory in which his army killed Teušpā, a chieftain of the Kimmerians (*Gi-mir-ra-a-a*) and all of his men.⁴² The Kimmerians were also the subject of several dozen interrogations that Esarhaddon and Ashurbanipal (668–630 BC) submitted to Shamash, the oracular sun-god. The Assyrian king asked Shamash, for example, about the wisdom of sending a messenger to the region of Hubuškia: the king

wishes to know whether such a messenger will return safely to Assyria, or will he “be attacked by the Cimmerians, [or the Urartians], or the Manneans, or the Scythians, [or the... jeans, or any enemy, (and whether) they will seize and kill [that messenger].”⁴³ Ashurbanipal had nothing good to say about the Kimmerians, as is clear from the inscription on Gugu and the Gimirrai that is quoted above: they were “a wicked enemy, who had never honored my ancestors or me.” In one of his interrogations of Shamash, Ashurbanipal asks the sun-god whether the Kimmerians were about to kill and plunder in a nearby district.⁴⁴ Perhaps the relatively prosperous metallurgists of the Luristan valleys were among the victims of Kimmerian or Skythian raiders. The long history of bronze-working in Luristan, which began in the third millennium BC, came to an abrupt end around the middle of the seventh century BC.

Herodotos’ chronology, always one of his weak points, is especially confused on the Skythian and Kimmerian episode. What pointers he gives us fall somewhere between the middle and the end of the seventh century BC, and at 1.103 he synchronized the arrival of the Skythians and Kimmerians from their northern haunts with the accession of Kyaxares in Media (Kyaxares ruled from *ca.* 625 to 585 BC). That is much too late: we have seen that by the time that Kyaxares came to the throne the Kimmerians had been a disruptive force in the neighborhood of Assyria for almost ninety years. According to Herodotos (1.16) the Kimmerians remained a problem for the Lydians and for the Greeks of Anatolia until the reign of Alyattes, who expelled the Kimmerians from his kingdom (where they were expelled to, Herodotos does not say).

While the Kimmerians were laying waste western Anatolia, so far as Herodotos knew, the lands to the east of the Halys were being ravaged by the Skythians. The name “Skythians” has no Greek etymology, and evidently represents a Greek approximation either of what some people called themselves, or of what their neighbors called them. As Assyriologists have known for a long time, we can be quite confident that the name which in Greek appears as Σκύθαι derives from the same source as does Akkadian *Iškuzāi* or *Iškuzāiu*. The Akkadian references—some in Neo-Babylonian and the rest in Neo-Assyrian script—all come from the first half of the seventh century BC. That some Assyrian and Babylonian scribes spelled the name *Aškuzāi* rather than *Iškuzāi* indicates that the initial vowel was a gratuitous prothetic vowel, or *schwa*. Semitic phonology did not permit a word to begin with two consonants, and when faced with foreign words or names that began with a consonant cluster the remedy was to preface the first consonant with a zero-grade vowel, which gave the speaker a running start so as to get past the otherwise ineffable cluster (cf. Arabic *Iflatūn* or *Aflatūn* for the philosopher whom the Greeks called *Platon*). In other words, the name that the Assyrians actually heard was very likely neither *Ašuzāi* nor *Iškuzāi*, but simply **Škuzāi*.⁴⁵ Obviously the name did not originate with Semitic speakers, and we may assume that the Assyrians learned it from people whose language readily accommodated initial consonant clusters. Indo-European languages in general and Median in particular had the requisite phonology, as is shown by personal names such as *Khšathrita* or *Fravartiš* or a placename such as *Skudra*.

Supporting evidence that Σκύθαι and *Iškuzāi* are Greek and Akkadian versions of the same name comes from a clay tablet recording one of the many questions that Esarhaddon posed to the sun-god, Shamash. The Assyrian king’s question reads as follows.⁴⁶

Šamaš, great lord, give me a firm positive answer to what I am asking you!

Bartatua, king of the Scythians (*mbar-ta-tu-a* LUGAL šá KUR. [i]š-ku-za), who has now sent his messengers to Esarhaddon, king of Assyria, concerning a royal daughter in marriage—

If Esarhaddon, king of [Assyria], gives him a royal daughter in marriage, will Bartatua, king of the Scythians, speak with [Esarhaddon, king of Assyria], in good faith, true and honest words of peace?

Will he keep the treaty of [Esarhaddon, king of Assyria]? Will he do [whatever i]s pleasing to Esarhaddon, king of Assyria?

The name of the royal *Iškuzāi* suitor—*Bartatua* (or *Partatua*)—seems to be echoed by the Protothyas or Protothyes who in Herodotos' *Histories* 1.103 appears as the father of Madyes, the Skythian king who defeated Kyaxares of Media and thereupon established the Skythians' dreadful twenty-eight-year rule over all of Upper Asia. Herodotos spelled the name of Madyes' father as Προτοθύης, but a seventh-century Greek may have pronounced the name as Προτοθύης, (the vowel-shift from the long α vowel to η in the Ionic dialect, which distorted all Iranian names in Classical Greek literature, seems to have still been operative in the sixth century BC). The Herodotean Protothyes is in the right place at the right time to be Bartatua, and also has the required disposition toward the Assyrians: Protothyes lives approximately two generations before the fall of Assyria, and evidently his kingdom is not too far from Nineveh, since his son Madyes (Madyas) wins his victory over Kyaxares as the latter is attacking Nineveh. The identification of Bartatua with Protothyes, made by Hugo Winckler more than a hundred years ago and generally accepted by Assyriologists ever since,⁴⁷ confirms the identification of Σκύθαι with *Iškuzāi*.

Assyriologists are agreed that in the seventh century BC the *Iškuzāi*, whom we may now call "Skythians," were to be found in northwestern Iran. The attested or anticipated confrontations between Skythians and Assyrians all take place well to the east or the northeast of Nineveh. In at least one document and apparently two, Skythians are located in the land of Media. Both documents record questions addressed to Shamash about the safety of officials who are being dispatched to Media in order to fetch an annual tribute of horses. The first tablet, in which the crucial toponym is unfortunately damaged, asks whether those men who are "entering Me[di]a (*a-na* KUR.ma[da-a-a]) to collect a tr[ibute] of horses," would escape unharmed from "the troops of the Skythi[ans]" (ERIM.MEŠ. LU.iš-ku-z[a-a-a]).⁴⁸ The second tablet, in better condition, asks whether "the troops of the Skythians" will attack the delegation that went "to the district of Media" (*a-na na-gi-i [s]a* KUR.ma-da-a-a) in order to collect horses, and is now returning to Assyria.⁴⁹ If the first of these inquiries (written in Neo-Babylonian script) dates from the reign of Esarhaddon and the second (in Neo-Assyrian), from the reign of Ashurbanipal,⁵⁰ they show that the *Iškuzāi* were a formidable force in Media for an extended period. Other documents locate Skythian troops on the periphery of Media. The earliest dateable document referring to *Iškuzāi* comes from the reign of Esarhaddon. A "prism" inscription of Esarhaddon, dating from the second month of his sixth year (676/5), boasts among other things of a victory that he won in Mannea (*Man-na-a*) over a

coalition of Manneans and *Iškuzāi*, the latter under a leader named Išpakā.⁵¹ Mannea lay to the east of the Zagros mountains and in the very high country south of Lake Urmia. The kings of Mannea had their palace at Hasanlu, ten miles upstream on one of the southern feeders of the lake. In later periods of antiquity Mannea was reckoned as part of Media, but for Assyrian scribes Mannea was just to the northwest of Media.

Another document, this one again an inquiry to the sungod, notes that *Iškuzāi* were moving out of Mannea, and possibly headed toward Assyria. Esarhaddon asks Shamash whether they will move through the passes of Hubuškia, and plunder the territory of Assyria.⁵² The Hubuškian passes through the Zagros lay a bit more than a hundred miles northeast of Nineveh. We have already noted the related inquiry, in which Esarhaddon asked the sungod's advice about sending a messenger to Hubuškia: the king wished to know whether such a messenger would be in danger of being attached by *Iškuzāi*. What evidence we have from Akkadian sources, then, locates *Iškuzāi* to the east and northeast of Assyria and on the other side of the Zagros mountains, somewhere in northwestern Iran and sometimes, at least, in Media. And they were a force to be reckoned with as early as the 670s BC.⁵³

The Skythians behaved just as wickedly as did the Kimmerians. As mentioned above, Esarhaddon was worried that the Skythians would plunder the territory of Assyria, and asked Shamash whether that was about to happen. Herodotos (1.106,1) generalized that by riding all around for twentyeight years the Skythians dominated Upper Asia, as each group plundered whatever it could. More particularly, Herodotos told a story (1.104–5) of how the Skythians had sacked the temple of Aphrodite Ourania in the Palestinian city of Ashkelon:

The Medians fought with the Skythians and were beaten, and so lost their *archē* to them, and the Skythians held sway over all of Asia. They then went against Egypt, but Psammetichos, king of Egypt, met with them in Palestinian Syria and with pleas and gifts turned them away so that they proceeded no further. On their way back home they came to the Syrian city of Askalon, and although most of the Skythians went harmlessly right on by, a few who were bringing up the rear plundered the temple of Aphrodite the Heavenly... Upon those Skythians who plundered her temple, and on all their descendants, the goddess inflicted the female disease.

Were the Skythians and Kimmerians riders? The areas in which they first appear—Mannea and Media—were lands renowned for their horses, but apart from a somewhat ambiguous participle at Herodotos 1.106 neither the Greek nor the cuneiform evidence explicitly describes the raiders as riders. The circumstantial evidence is nevertheless sufficient for us to conclude that they were. We may begin with the requirements and patterns of ancient raiding. In all periods mobility was a most important consideration for raiders, because their success depended very much on surprise and on the ability to abscond quickly with what was taken. If the intended victims had ample notice that a raid was imminent, they were able either to hide the most precious of their portable belongings, or to disperse, taking with them whatever they could carry. The most successful raiders in antiquity came by sea, the raiders coming ashore and catching

unawares a city on or near the coast. Sometimes, however, raiders came overland. In the great upheaval ca. 1200 BC many important inland cities and palaces—for example, such central Anatolian places as Hattusas and Alaca Hüyük—must have been sacked by raiders who got there on foot. Once the secret of secure riding had been learned, however, overland raiders were usually on horseback: horses not only brought the raiders quickly to their destination and provided a quick means of escape, but also could carry a heavy load of loot. In addition to the horses that the raiders rode, a raiding party brought along many more spare horses, whose role it was to transport the textiles, metalwork, jewels and women that the raiders had taken. Ancient raiders on horseback—Alemanni, Goths, Arabs—were often seen during the decline of the Roman Empire. To meet the threat from riding raiders Diocletian established a hundred or so *vexillationes* of cavalry.

Hippologists have generally neglected this unsavory role of the horse in human history, nor has it been much investigated by other specialists. Because raiders in most periods did their best to avoid military confrontations, and because their usual objective was to plunder, rape and kill unarmed and unsuspecting civilians, the raid does not properly qualify as military history. In the Western way of war, armed conflict on the battlefield has been the ultimate manifestation of honor and courage. The raid, on the other hand, fits more easily into the history of crime.

Although neither from Herodotos nor from any other ancient source do we have an explicit statement that the Skythians and Kimmerians were on horseback, we do have incriminating clues. The anecdote mentioned above, in which Aphrodite Ourania of Askalon curses the Skythians with “the female disease” is a case in point. The Hippocratic corpus is more specific about the nature of this “female disease,” identifying it as impotence. The reason this ailment was so common among the Skythians, the Hippocratic writer explained, was that they spent too much of their lives on horseback.⁵⁴ When Herodotos (1.6.3) characterized the Kimmerian violence in Ionia he contrasted it with the durable conquests by Croesus or the Persians, and characterized it instead as “a hit-and-run raid.” His reference to the Skythian marauders as **περιελαύνοντες** (1.106.1) likewise connotes horseback riders. The poetic reference to the Kimmerians as “mare-milkers” is another strong hint that they arrived at Ephesos on horseback, perhaps with a large remuda of mares that were brought along both to serve as pack-horses and as sources of milk. Most telling of all, however, is the name *Skythians* for the raiders of Upper Asia. That name—*Iškuzāi*, as the Assyrians pronounced it—was historically correct, but for Herodotos and other fifth-century Greeks the name brought to mind images of the horse-riding nomads of the PonticCaspian steppe. When Herodotos spoke of the seventh-century plunderers of Upper Asia as “Skythians” he and his readers could hardly have envisaged them as proceeding on foot: if they were Skythians, they must have been riders.

It is also relevant that the Kimmerians and Skythians specialized in plundering places that could be taken without sieges. The raiders were apparently not equipped to take walled cities, unless the cities were very small. It has regularly been assumed that the Kimmerians destroyed Gordion early in the seventh century BC, but recently obtained carbon and tree-ring dates indicate that the pertinent destruction level at Gordion was laid down no later than 800 BC, and so was hardly the work of Kimmerians.⁵⁵ Perhaps Kimmerians did plunder other, unfortified places in Phrygia, and drive Midas to drink himself to death, but his capital city seems to have been beyond their power to take. Far

to the southwest of Gordion, the city of Ephesos was evidently saved from the Kimmerians by its walls, while the temple of Artemis just beyond the walls was sacked. Similarly, at Ashkelon the Skythians were able to plunder only the temple of Astarte, which we may therefore suppose lay on an extra-urban site.⁵⁶ At Sardis, the Kimmerians may have ransacked the royal tombs, and plundered the lower city, but either did not try to take the citadel or tried and failed. The only cities that they seem to have taken were Sinope and Magnesia, both of which in the early seventh century BC were presumably quite small.

Traditions about raiders on horseback, armed with bows and swords, who attacked villages and towns but not walled cities, also appear in the Hebrew prophet Ezekiel, who looked back on an attack by the riders of Gog. In Ezekiel 38 Yahweh orders the prophet to give his message to Gog, summoning Gog's horde to Israel (NEB translation):

These were the words of the Lord to me: Man, look towards Gog, the prince of Rosh, Meshech, and Tubal, in the land of Magog, and prophesy against him. Say, These are the words of the Lord God: I am against you, Gog, prince of Rosh, Meshech and Tubal. I will turn you about, I will put hooks in your jaws. I will lead you out, you and your whole army, horses and horsemen, all fully equipped, a great host with shield and buckler, every man wielding a sword, and with them the men of Pharas, Cush, and Put, all with shield and helmet; Gomer and all its squadrons, Beth-togarmah with its squadrons from the far recesses of the north—a great concourse of peoples with you. Be prepared; make ready, you and all the host which has gathered to join you, and hold yourselves in reserve for me. After many days you will be summoned; in years to come you will enter a land restored from ruin, whose people are gathered from many nations upon the mountains of Israel that have been desolate so long. The Israelites, brought out from the nations, will all be living undisturbed; and you will come up, driving in like a hurricane; you will cover the land like a cloud, you and all your squadrons, a great concourse of peoples. This is the word of the Lord God: At that time a thought will enter your head and you will plan evil. You will say, “I will attack a land of open villages. I will fall upon a people living quiet and undisturbed, undefended by walls, with neither gates nor bars.” You will expect to come plundering, spoiling, and stripping bare the ruins where men now live again, a people gathered out of the nations, a people acquiring cattle and goods, and making their home at the very centre of the world. Sheba and Dedan, the traders of Tarshish and her leading merchants, will say to you, “Is it for plunder that you have come? Have you gathered your host to get spoil, to carry off silver and gold, to seize cattle and goods, to collect rich spoil?” Therefore, prophesy, man, and say to Gog, These are the words of the Lord God: In that day when my people Israel is living undisturbed, will you not awake and come with many nations from your home in the far recesses of the north, all riding on horses, a great host, a mighty army? You will come up against my people Israel; and in those future days you will be like a cloud covering the earth. I will bring you against my land,

that the nations may know me, when they see me prove my holiness at your expense, O Gog.

(38:1–16)

Yahweh's reason for bringing Gog's riders down from the far recesses of the north, he revealed to Ezekiel, was to destroy them on the hilis of Israel:

And you, man, prophesy against Gog and say, These are the words of the Lord God: I am against you, Gog, prince of Rosh, Meshech, and Tubal. I will turn you about and drive you, I will fetch you up from the far recesses of the north and bring you to the mountains of Israel. I will strike the bow from your left hand and dash the arrows from your right hand. There on the mountains of Israel you shall fall, you, all your squadrons, and your allies; I will give you as food to the birds of prey and the wild beasts.

(39:1–4)

For seven months the people of Israel would take turns burying the corpses, dumping them into the Valley of Gog's Horde. And for seven years the people would need to cut no firewood, and instead would stoke their cooking fires with the bows and arrows, shields, and lances of the plunderers.

Ezekiel's "riders of Gog" were probably akin to (or even identical with) the Skythians whom Herodotos described as plundering the Levant up to the borders of Egypt.⁵⁷ And Gog, as was long ago suggested, may be a Hebrew rendering of the name that shows up in Greek as Gyges.⁵⁸ It is quite unlikely that Gyges, tyrant of Lydia, went on a plundering ride to the southern Levant, but it will be recalled that Ashurbanipal complained, in his Rassam Cylinder inscription, that Gyges (*Gugu*) sent forces to assist Psammetichos of Egypt, who was trying to establish his independence from Ashurbanipal. Although some of the men whom Gyges sent to Psammetichos were Carian and Ionian hoplites, it may be that Gyges also suborned a host of riders to plunder the Assyrians' provinces in the Levant (while sparing Psammetichos' own territory). Kimmerians and Skythians were certainly available for such adventures. We have seen that in the early 660s BC the kingdom of Gyges was plagued by Kimmerian raiders, and that shortly after Gyges' death they returned to plunder his tomb and the lower town at Sardis. But in the later 660s and the 650s BC Gyges may have reached a *modus vivendi* with them, for they did not bother his land during that time. Herodotos (1.73) heard a tale that Skythian archers went from Media to Sardis, where they were employed by Alyattes, and it may be that Alyattes was not the first Lydian king to have done so.

Where the Skythians and Kimmerians—the *Iškuzāi* and the *Gimirrai* came from is less clear than what they did, but enough evidence has accumulated to reach at least a tentative conclusion. Classicists have traditionally supposed that they originated north of the Black Sea, as Herodotos said they did. The archaeological record leaves little doubt that already in the eighth century BC the population of the Pontic steppe had become fully nomadic, and it is not unlikely that—as Karl Jettmar proposed a generation ago—the beginnings of nomadism throughout the Eurasian steppe were somehow linked with the beginnings of mounted combat.⁵⁹ I suggested in Chapter 4 that once they had learned how to ride well, "rustlers" may have begun to steal the flocks and herds that solitary

herdsmen were long accustomed to take from a river valley settlement to seasonal pastures miles away in the steppe, and that in order to protect its animals the entire settlement community may have been forced to become nomadic. In any case, we can be quite certain that by ca. 700 BC most men in the Pontic steppe were expert riders.

The Skythians and Kimmerians who did so much damage in Anatolia and the Levant, however, were obviously not the nomadic “nations” that Herodotos imagined, but mobile striking forces intent on raiding, and Assyriologists have for more than thirty years been convinced that both Skythians and Kimmerians were at home in southeastern Anatolia or northwest Iran.⁶⁰ That is where the cuneiform documents locate them, and what personal names are attached to them seem to make sense as deriving from an Iranian language.⁶¹ So far as the Kimmerians are concerned, the Assyrian kings made little distinction between them and the traditional Assyrian enemies in Media and Mannea, which lands lay to the east and northeast: in Esarhaddon’s time the names Kimmerians, Manneans and Medians were virtually synonymous.⁶² It is thus likely that some of the men who are called Kimmerians in our sources had their homes in the Iranian plateaus to the east and north of what in modern times has been called Luristan.⁶³ The advent of good riding was apparently just as consequential for northwestern Iran as it was for the Eurasian steppe. While the innovation may have encouraged or forced the inhabitants of the Pontic-Caspian, Kazakhstan and Siberian steppe to abandon their settlements and become fully nomadic, the new riding skills enabled the inhabitants of northwestern Iran to raid the civilized lands to the west.

Whether *Iškuzāi* and *Gimirrai* were two groups of raiders, or whether these are merely two different names applied to the raiders, is uncertain. It is remarkable that among so many Akkadian references to the *Iškuzāi* and *Gimirrai*, all of them in a context of conflict, not a single text presents the *Iškuzāi* and *Gimirrai* either as fighting against each other or as fighting alongside each other. In fact, with one exception the *Iškuzāi* and *Gimirrai* never appear in the same text: in scores of tablets and inscriptions the scribe mentions either *Iškuzāi* or *Gimirrai*, but not both. For these reasons, and especially because the Assyrian scribes located both *Iškuzāi* and *Gimirrai* in the same rather confined territory, to the east or northeast of Assyria, Igor Diakonoff concluded that the names were interchangeable: scribes who wrote in the Neo-Assyrian dialect called the troublemakers *Iškuzāi*, and scribes writing in Neo-Babylonian called them *Gimirrai*.⁶⁴ That is not quite correct, as Askold Ivantchik has pointed out: the Shamash interrogations indicate that Neo-Babylonian scribes were just as likely as Neo-Assyrian scribes to use the name *Iškuzāi*.⁶⁵ Ivantchik also called attention to the single text again an interrogation of Shamash—that mentions both *Gimirrai* and *Iškuzāi*. Nevertheless, Diakonoff may have been essentially right, because the one text in which both names appear seems to have used them as synonyms.⁶⁶ Diakonoff suggested that *Gimirrai* was a descriptive common noun, meaning something like “nomads” or “vagrants.”⁶⁷ More likely, however, is that *Gimirrai* had a toponymic base: “men from *Gamir*” The place-name *Gamir* shows up in several Akkadian texts,⁶⁸ and is assumed to be equivalent to the Hebrew *Gomer* (in the Hebrew Bible *Gomer* was both a land in the north and the first-born of Japheth, son of Noah). It is nevertheless possible, or even likely, that the names were for the most part noms de guerre, which is to say that the land of *Gomer* may have been small and insignificant, but earned a prominent place in the Jerusalem priests’ Table of Nations because of the raids perpetrated by men called *Gimirrai*. In any case, the names *Iškuzāi*

and *Gimirrai* cannot be used as evidence for two ethnic entities. The raiders themselves will not have had much interest in what they were called by their victims.

Late in the eighth century BC at least two Greek cities—Trapezos (Trebizond) and Sinope—seem to have been already standing along the southeastern shore of the Black Sea.⁶⁹ Perhaps it was from iron and silver traders who had sailed to this distant shore that the name *Gimirrai*, hellenized as *Kimmerioi*, entered the Greek vocabulary (Sinope, as we have seen, was one of the few cities that Kimmerians destroyed). For this exotic people the poet of the *Odyssey* found a place in his story, never suspecting that within a few decades the Greeks of Ionia would have a terrifying, firsthand acquaintance with Kimmerians. In the epic, Odysseus learns from the enchantress Circe that the gates of the Underworld lie at the farthest edge of ocean, and to that faraway land he therefore sails. “Our ship,” Odysseus tells his rapt listeners,

Came to the limits of deep-flowing Ocean,
Where is the *demos* and *polis* of the Kimmerians,
Men hidden by mist and cloud. Never does the bright sun
Shine down on them with its beams.

(*Odyssey* 11.13–16)

Although the poet may have imagined his Kimmerians as residing at the farthest shore of the Black Sea, Giovanni Lanfranchi has well said that Homer’s “land of the Kimmerians” is no more than “una terra favolosa, simile alla montagna del Purgatorio che Dante descrive.”⁷⁰ Most Archaic and Classical Greeks, however, believed that although Homer may have taken some liberties with gods, goddesses and monstrous creatures, his geography was reliable. By late in the seventh century BC “the limits of deep-flowing Ocean” were no longer in the vicinity of Trapezos, for by that time the Greeks of Ionia had not only sailed along the northern shores of the Black Sea, but had also planted cities there (one of which, Olbia, was a large and prosperous city until Late Antiquity).⁷¹ It was therefore agreed that the *Kimmerioi* who in Odysseus’ day guarded the gates of hell must have lived along what the Greeks called Lake Maiotis and what is now the Sea of Azov. That area therefore became, for most Greeks of the Archaic and Classical periods, “the land of the Kimmerians,” and Olbians were eager to point out to visitors a Kimmerian fortress, a Kimmerian portage, and a Kimmerian Bosphorus (now the Straits of Kerch).⁷² The place has been “the Crimea” ever since.⁷³

A poor second choice, favored by those Greeks who believed that Odysseus had his adventures in western waters rather than in the Black Sea, was that the gates of the Underworld actually lay in the “burning fields” below Vesuvius, on the Campanian coast, and in this minority opinion the Kimmerians that Homer knew were therefore assigned a place in Italy.⁷⁴ By the first century BC, as Roman conquests revealed to the Hellenes hitherto unknown areas of northern Europe, geographers finally became acquainted with the North Sea. Accordingly, “the limits of deep-flowing Ocean” were placed in what is now Denmark, and Poseidonios decided that Homer’s Kimmerians must have lived there.

But such opinions were eccentric. By the end of the seventh century BC, when many Greeks had made up their minds that the limits of Ocean were on the northern shore of the Sea of Azov, and that it was there that the Kimmerians must have lived in the days of Odysseus, it became necessary to explain why Kimmerians no longer lived there, and

why within recent memory they had gone on a rampage in western Anatolia. The matter was explained by Aristéas of Prokonnesos, in the epic *Arimaspea* that he wrote ca. 600 BC. Aristéas was not only a poet but also a man of mystery, who at least once and perhaps twice came back from the dead.⁷⁵ His native polis, Prokonnesos, was an island in the Sea of Marmara, and Aristéas' epic treated many of the myths connected with what for Greeks of the Aegean was "the north." Farthest to the north, he explained, lived the blessed Hyperboreans, among whom Apollo spent a part of each year. Next came the griffins, with the wings of eagles and bodies of lions, and they guarded the gold that poured from the earth. Just this side of the griffins were the Arimaspians, one-eyed men, and then the Issidones and finally the Skythians. At one time, Aristéas reported, the Kimmerians were the most southerly people in this fabulous gazetteer of the northerners, and he told how it happened that people who in Odysseus' day were living north of the Black Sea eventually became such a menace south of the Black Sea. The one-eyed Arimaspians, Aristéas explained, expanded toward the south and displaced the Issidones, who in turn displaced the Skythians, who in turn displaced the Kimmerians, the Skythians driving the Kimmerian *ethnos* out of its traditional home and into Anatolia. This fine aetiology was accepted by Herodotos, even though he noted (4.5–7) that the Skythians themselves did not agree with it: according to the Skythians themselves, they had never displaced anybody, and before their ancestor Targitaos was born from the snake-woman the land to the north of the Black Sea had no human occupants.

The Herodotean account of the Kimmerian migration and the Skythian incursion from the Pontic-Caspian steppe into Anatolia has been treated with undeserved respect by most archaeologists who work on the steppe.⁷⁶ Various cultural assemblages have been identified as "Kimmerian," and what lies immediately above these strata is necessarily identified as the earliest "Skythian" material in the archaeological record. This interpretation of the archaeological record has not been much affected by the Assyriological evidence that both *Iškuzāi* and *Gimirrai* seem to have been names for horsemen who lived in northwestern Iran and southeastern Anatolia. While it is understandable that steppe archaeologists will not readily give up their Kimmerians to specialists on Iran and eastern Anatolia, it must be pointed out that the only reason for assigning the Kimmerians a homeland north of the Caucasus mountains is the aetiology that Herodotos took from Aristéas' *Arimaspea*. Equally sobering is that the people who in Herodotos' own day lived in the Pontic-Caspian steppe were not Skythians at all. That name was applied to them by the Greek colonists at Olbia and other Euxine cities, and was no more justified than the name "Indians" that European explorers affixed to the natives of the Americas. Herodotos tells us (4.6) that the natives of the Pontic-Caspian steppe called themselves *Skolotoi*, and that only the Greeks called them "Skythians." We may suspect that the name "Skythians" was applied to them because in several important ways the *Skolotoi* of the Pontic steppe resembled the real Skythians, who had ridden out of Iran to terrorize western Asia early in the seventh century BC. Both groups, that is, rode horses, were skilled archers, and wore pants and tall, conical hats. By the seventh century BC these characteristics were shared by most of the people of the Eurasian steppe, from Europe to western China: as demonstrated by the mummies at Zaghunluq, near Cherchen, men in the Tarim Basin wore pants and both the men and the women wore the same tall, conical hat that riders favored near the Lower Danube.⁷⁷ And of course they all rode horses and used the bow. There was, however, one very important

difference between the nomadic *Skolotoi* north of the Black Sea and the Skythians of western Iran: the *Skolotoi* appear to have been pastoralists and not raiders. So far as Herodotos knew, they had never bothered the Greek cities that were built in their midst, and in fact seem to have welcomed their construction. That the hospitable and congenial “Skythians” north of the Black Sea were the same people as the real Skythians, who had terrorized much of the Near East for a generation, is most unlikely. A pertinent detail is that the “Skythians” of the Pontic-Caspian steppe are never portrayed, in texts or in art, as carrying swords, without which horsemen could hardly have launched a terrifying charge against infantrymen.

In summary, this chapter has argued that “Kimmerians” and “Skythians” were names for riding raiders who plagued much of the Near East and especially Anatolia during the seventh century BC. These raiders evidently came out of southeastern Anatolia and northwestern Iran. They carried bows and swords, and if they came in sufficient numbers they would have been able to defeat an infantry. For the most part, they avoided military confrontations and contented themselves with falling unexpectedly on villages, unfortified towns, extra-urban temples, and occasionally even tombs. They were a malign result of the advent of good horsemanship.

6

THE IRANIAN EMPIRES

If it is conceded that mounted raiders were indeed a threat to many parts of the civilized world through much of the seventh century BC, we shall also have to suggest why that threat was relatively short-lived. Part of the answer must lie in the defenses available to cities and kingdoms. As indicated in Chapter 5, the Neo-Assyrian armies featured an infantry formation (or line) of “archer-pairs,” the archer on the ground being protected by a shieldholding partner. The Persian *sparabara* continued this tradition, deploying a huge wicker shield that protected both himself and the archer. Such a formation would have taken a toll against mounted archers. Defenders could also hurl javelins against the horsemen. A vase painting of the early sixth century BC shows Hellenes using javelins against mounted archers, some of the javelineers being themselves mounted on horseback.¹ And I shall suggest in Chapter 7 that elements of the hoplite armor that came into use in western Anatolia in the seventh century BC may originally have been intended for protection against Kimmerian or Skythian horsemen.

The other part of the answer, and in the short run the more important, would be that by the end of the seventh century BC the horsemanship and tactics of the raiders had been incorporated into organized warfare, and the raiders themselves had been gathered into a formal state, the kingdom of Media. Mounted raiders by themselves, unless they came in great numbers, were capable only of hit-and-run attacks. With their remarkable mobility they could reach their destination, plunder it, and ride off before a relieving army arrived at the scene. They could take and sack unfortified places but were not likely to have had much success against a walled city or a resolute infantry. By 600 BC thousands (and possibly tens of thousands) of expert horsemen, just as good as those who fifty years earlier had raided the suburbs of Sardis and Ephesos, had been integrated into an army alongside infantry archers and spearmen, and all were coordinated by a chain of command. Kimmerians and Skythians had become Medes. Another way of saying this is that those men of northwestern Iran who, as a tumultuous horde of horsemen, raided villages and unwall towns were known as Skythians and Kimmerians. And those northwest Iranians who were organized into a kingdom based at Ekbatana, who defeated the Assyrian army (until that time the most formidable in the world), and who sacked the most strongly fortified cities on their horizon, called themselves Medians.² Lying just to the east of the Zagros mountains, Media was a land of high plains (Ekbatana itself, today Hamadan, lay 1800 meters above sea level). Thanks to its high elevation, Media was a natural habitat for horses (the Sumerogram for “horse” was ANŠE.KUR.RA, literally “ass of the mountains”). The Assyrian kings, as the Shamash inquiries show, depended on horses imported from Media and had continued to send companies of riders every year to fetch the “horse tributes,” even when the companies were threatened by Skythian or Kimmerian attacks.

Much of the transition from Skythian and Kimmerian raiders to a Median army seems to have been the achievement of Kyaxares, to whom Herodotos assigned a reign of forty years (usually dated *ca.* 625–585 BC). Although Kyaxares' main strength may have been his horsemen, he also commanded infantrymen, some of them armed with bows and others with spears. Herodotos was told that the man who transformed the Medians from a mob to an organized military force was Kyaxares. He was "the first to command separate units of spearmen, archers, and horsemen. Before Kyaxares everyone was all mixed up together" (1.103.1). Unlike the quick and unexpected strikes of the Kimmerian and Skythian raiders, the progress of Kyaxares' force across the countryside must have been slow and deliberate, his riders having to limit themselves to the fifteen miles a day that the infantrymen could accomplish. These were not hit-and-run raids, but full campaigns.

In Akkadian sources the equivalent of Herodotos' Kyaxares is Umakištar, whom the Babylonian Chronicles identify as the leader of the Medians (*Ma-da-a-a*) or the *Umman-manda*, and the man responsible for destroying Nineveh in 612 BC.³ The actual Iranian name seems to have been *Uvakhštra*,⁴ but I shall here use the more familiar Herodotean rendering. Kyaxares may have been the first to take the title, "king of Media," and we may use that title for him, although Stefan Zawadzki has made the good point that the Babylonian scribes sometimes call him the "leader" of the Medians but never refer to him as "king of Media" (*šar^{kur}Ma-da-a-a*).⁵ If they do acknowledge him as a king, the Babylonian scribes call Umakištar "king of the Ummanmanda," a somewhat derogatory reference. In Babylonian parlance the name Umman-manda ("Manda hordes") had for a thousand years been a term for the unruly barbarians across the Zagros mountains.⁶

Before looking at Kyaxares' relationship to the Skythians it will be helpful briefly to characterize Herodotos' information about Media, the *mēdikos logos* of 1.95–106. This material dovetails with Herodotos' famous "Cyrus *logos*" (1.107–130) and was apparently drawn from the same source from which the historian learned about the babyhood and rise to power of Cyrus. The entire *logos* puts the Medians in a very good light, and reflects a Median perspective on Cyrus and the Persians. According to the story that Herodotos heard and told, Cyrus' royal credentials came entirely from his Median ancestry: Cyrus' father, that is, was a Persian commoner, but Cyrus' mother was a daughter of Astyages, King of Media and the very last of the Median kings.⁷ Thanks to his mother, therefore, Cyrus was the legitimate heir to the great kingship of the Medians. This story must have salved Median pride but it is unlikely that Cyrus was related to Astyages. Cyrus' father, far from being a Persian commoner, was the king of Anshan, and was descended from a dynasty that had ruled the city for three generations.⁸ Ancient Anshan was probably at Tepe Malyan, on the eastern side of the Zagros and about thirty miles from Persepolis. It had long been one of the two capitals of Elam, and when Cyrus identified himself it was regularly as "King of Anshan."⁹ Whether Cyrus' mother had any connection with the Median royal family is very doubtful (neither Cyrus' own inscriptions nor other cuneiform texts mention such a connection).

Herodotos' source on the Median kings and on the origins of Cyrus seems to have been attached to the descendants of an important Median named Arbaku, who comes down in Herodotos' *Histories* as "Harpagos."¹⁰ This Harpagos, it was recalled, had saved the infant Cyrus from the death sentence that Astyages—having been warned by a pair of dreams that the baby would one day overthrow him—had pronounced upon the baby. After Cyrus had grown to be a man, he decided to lead a rebellion against Astyages. At

that time, it so happened, Harpagos was the commander of Astyages' army, and at the critical moment he threw his support (and the entire Median army) to Cyrus. In return for both of these great services, Cyrus rewarded Harpagos with several high appointments, the last of which was a satrapal seat in southwestern Anatolia. Whatever Cyrus' indebtedness to Harpagos may have been, the satrapal appointment was real. Harpagos' descendants seem to have remained in southwest Anatolia (Caria and Lycia) for generations, and they or their retainers were very likely the source from which Herodotos learned about the Medians and about the birth and rise of Cyrus.¹¹ In any case, what Herodotos has to say about the Medians and about the origins of Cyrus seems to have come from hellenized Medians who knew something of early Median history, however much that history had been distorted and sanitized over the course of two hundred years.¹²

Returning now to the matter of Kyaxares' relationship to the Skythians, we note that Herodotos heard from his source that Kyaxares not only had fought against the Skythians, but also had himself employed Skythians to teach young Medians how to ride and shoot. They were a troublesome lot, however, and two stories—mutually exclusive—explained how Kyaxares finally was rid of his Skythians, the key event being a dinner at which something dreadful happened. In one version (Hdt. 1.73) the Skythians are the hosts, and serve up to Kyaxares and his Median friends the flesh of Median boys (immediately after this Thyestean banquet the Skythians ride off to Sardis, where they find employment with the king of Lydia). In the other version of the banquet story, this one within the Cyrus *logos* (Hdt. 1.106), Kyaxares is the host: he plies his Skythian guests with wine until they are drunk, and then kills them. This folk history suggests that for a time there was collaboration between those northwest Iranians who identified themselves as Skythians and those who identified themselves as Medians, but the collaboration turned sour and in the end everyone in northwestern Iran had to accept the sovereignty of Kyaxares. The subjects of the king at Ekbatana came to be known as Medians, and there no longer were Skythians in northwestern Iran. The belief of some historians that in 612 BC Skythians and Medians together descended upon Nineveh depends on a misinterpretation of the Babylonian Chronicle's account for that year.¹³

The Median army that Kyaxares deployed against Assur in 614 BC must have been numbered in the tens of thousands, and a great many of these men would have been riders. Very few reliable figures on the size of ancient armies are available for this period, but for what it is worth an eighth-century Urartian king claimed that for a campaign against Mannea, in northwestern Iran, he mustered 106 chariots, 22,704 infantrymen, and 9,374 riders. Mesopotamia was far less suitable for horse breeding than were the highlands to the north and east. The Assyrians, depending for the most part on imported horses, were not able to match their neighbors in cavalry. It is noteworthy that the largest number of riders claimed by an Assyrian king comes from ninth-century annals: Shalmaneser III reported that in 839 BC he took 5,542 riders to Syria. In the eighth century the Assyrians often had only a tenth as many men on horseback as they had on foot.¹⁴ For a time the Assyrians may have obtained some of their chariot horses from Kush (Nubia), but by the seventh century BC the Assyrians seldom if ever used chariots on the battlefield.¹⁵ It was therefore of vital importance to secure an annual complement of riding horses from across the Zagros, but even under Esarhaddon the expeditions to bring in "horse tributes" were a dangerous business, as the king's earnest inquiries of the

oracular Shamash indicate, and in the second half of the seventh century they must often have come to grief. Finally, as Media became centralized under Kyaxares we must suppose that the “horse tributes” from Iran to Assyria stopped altogether, and that the last kings of Assyria had far fewer mounted troops than they needed. When Kyaxares attacked Assyria in 614 BC his infantry may have been smaller than that of the Assyrians, but on horseback the Medians must have had an overwhelming advantage.

In speculating about the reasons for the Median victories over the Assyrians and Cyrus’ victory over the Chaldaeans we must also ask what “infantry” may have meant to the Assyrians and Chaldaeans. Modern assumptions about ancient infantries are based mostly on what Greek and Roman sources tell us or show us about them, but we have no reason to assume that the infantries of Assyria and Babylon had much in common with either the Greek phalanx or the Roman legion. Although Assyrian palace reliefs, intended for propaganda, show us a great many details about the military might of an Assyrian king, they do not show at all how an Assyrian army worked.¹⁶ Because the kings themselves preferred to ride in chariots, the chariot is a favorite subject for the sculptors. Riders are also well represented in art, perhaps because men on horseback were more spectacular than men on the ground. The infantry, on the other hand, is relatively inconspicuous, and although the inscriptions assure us that it was much larger than either of the horsetroops neither the texts nor the reliefs tell us how the infantry fought. J.N.Postgate has in fact observed that Assyriologists are not sure what was the Assyrian word for “infantry.”¹⁷ Infantrymen were evidently of two kinds, the archers and the spearmen. Although only the spearmen carried shields (apparently lightweight, and consisting of a leather surface stretched across a wooden frame), all the infantrymen wore defensive armor. This consisted of a helmet and a leather jacket or corselet strengthened with bronze scales. Almost every Assyrian soldier is depicted as wearing a sword, but the reliefs do not show an Assyrian (or an opponent) using a sword in battle. Often a lone Assyrian infantryman is portrayed as running his spear into an enemy, but we have no way of knowing where on the battlefield or at what stage of the battle this action is supposed to happen.

Most importantly, in no relief does an Assyrian infantry unit clash in hand-to-hand combat with a unit of enemy infantrymen. The absence of such scenes and the prevalence of scenes in which infantry archers shoot their arrows against distant enemies suggest that in most encounters the action was primarily at long range. The Assyrian infantrymen who are armed with spears and who carry shields seem often to serve as defensive partners of the archers, shielding the archers and allowing them to operate without fear of being overrun by their opponents.¹⁸ In other words, the reliefs suggest that the archers were the offensive element in the Assyrian infantry, and that the main duty of the men with spear and shield was to prevent the enemy from hitting the Assyrian archers with their arrows or trying to overrun them.¹⁹ Whether or how often the spearmen were ordered to attack their enemy counterparts and engage them in hand-to-hand combat is an open question. It may be that hand-to-hand combat occurred only after one side or the other had broken under a volley of arrows, and its line had disintegrated.

If this is a correct assessment of an Assyrian infantry (about the infantry of the Chaldaean kings we have virtually no information), it is not difficult to imagine how and why it would have been defeated by the Medians under Kyaxares. Because the Medians had a great many horsemen and the Assyrians did not, Kyaxares had an enormous

advantage. The “archer pairs” of an Assyrian army may have held firmly in an encounter at long range. What would have happened, however, when the Median horsemen put away their bows, drew their swords or grasped their thrusting spears, and made a concerted charge against the Assyrian archer pairs? Historians in their offices may be quite sure that had the Assyrian spearmen quickly closed up their very loose formation into a solid line the charging horses would eventually have slowed and stopped, but the Assyrian spearmen and archers are not likely to have been so sure about that. The psychological edge in the battles at Assur, Kalhu and Nineveh is likely to have been held by the Median horsemen, and I suspect that once the charge began a few of the Assyrians began to run, and that moments later the Assyrian lines dissolved. We have no details about the battle that Cyrus the Great and Nabonidus fought at Opis in 539 BC, but here too the Iranians’ victory may have been in large part the result of their superior cavalry.

From a Mesopotamian standpoint the emergence of Kyaxares as a powerful ruler across the Zagros was probably no improvement on the Skythian and/or Kimmerian reign of terror, and in some ways was certainly worse. Eventually the Medians became a proper imperial power, with subjects and vassals, and the normal accouterments of a great court such as chamberlains, slaves, and scribes. At the outset, however, the Median Kyaxares seems to have been as barbarous and terrifying as had been his Kimmerian or Skythian predecessors. The one significant difference, as argued above, must have been in the force that he led. Whereas the Kimmerians and Skythians had been able only to overwhelm villages and small towns and to plunder tombs and temples outside the fortification walls of a large city, Kyaxares and his Medians were capable of much grander operations. They were sackers of great and well fortified cities. Such feats could not have been accomplished by a force made up entirely of men on horseback, however skilled they were with the bow, sword and spear. We may assume that in addition to his riders Kyaxares brought with him not only an infantry but also a siege train.

Although Kyaxares’ resources and tactics may have been novel for northwestern Iran, his objectives seem to have been similar to, although much larger than, those of the earlier Kimmerians and Skythians. Herodotos reported that Kyaxares and his Medians “took” or “captured” Nineveh, and Herodotos seems to have imagined this as a relatively benign transfer of imperial power, analogous to Cyrus’ “taking” of Sardis and Babylon. Nineteenth-century excavations showed, however, that the “taking” of Nineveh was in fact the thorough sacking and then the destruction of the city. And the Babylonian Chronicles add what could anyway have been guessed: that many of the inhabitants of the great Assyrian centers were slaughtered and the rest carried away to Media. It is unlikely that—at least at the beginning of his reign—Kyaxares and his Medians were interested in anything so abstract as an empire. What they wanted and got was the enormous treasure that had been accumulating in the Assyrian palaces and temples for three hundred years. At the great temple of Ashur at Assur dedications of gold, silver and bronze had been pouring in since the tenth century BC and it was undoubtedly the richest temple in the world when the Medians sacked it in 614 BC. The Medians returned in 613 BC, this time to sack Kalhu (Nimrud), where Ashurnasirpal II had built his great palace. Finally, in 612 BC it was the turn of Nineveh. At all three places the Medians seem to have enslaved the surviving population, plundered the buildings of everything valuable, and then razed them.²⁰

Although Nabopolassar the Chaldaean was an ally of Kyaxares, insofar as Nabopolassar too hoped to see an end of the Assyrian empire, the Chaldaeans were aghast at the impiety of their Median allies. In Mesopotamian eyes, that the Medians could sack temples set them apart as a godless people.²¹ Not long after the Medians had finished with the great Assyrian centers they sacked and destroyed Ehulhul, the temple-precinct of the moon-god Sin, at Harran. Again, they came only to sack the place, not to take it over, and after their monstrous act they returned to their own country.²² The sacrilege appalled people throughout Syria and Mesopotamia, and fifty-four years after the Median destruction of Ehulhul the sanctuary was lovingly restored by King Nabonidus.

Even the inhabitants of Babylon seem to have shivered at the thought of a Median attack on their city. The prophetic books of Jeremiah and Isaiah reflect this fear and take some pleasure in it. Isaiah announces (13:17–21) that Yahweh is about to send the Medians against Babylon:

I shall stir up the Medes against them; they cannot be bought off with silver, nor be tempted by gold; they have no pity on little children and spare no mother's son. Babylon, fairest of kingdoms, proud beauty of the Chaldaeans, will be like Sodom and Gomorrah when overthrown by God. Never again will she be inhabited, no one will ever live in her throughout the ages; no Arab will pitch his tent there, no shepherds fold their flocks. But marmots will have their lairs in her, and porcupines will overrun her houses; desert-owls will dwell there.

(OSB)

Jeremiah (51:11) looked forward to the same catastrophe for Babylon:

Sharpen the arrows, fill the quivers. The Lord has roused the spirit of the Medes; for the Lord's purpose against Babylon is to destroy it.

(OSB)

A few verses later Jeremiah spelled out the details of Babylon's doom (51:27–29):

Raise a standard on the earth, blow a trumpet among the nations, consecrate the nations for war against her, summon the kingdoms of Ararat, Minni, and Ashkenaz, appoint a commander against her, bring up horses like a dark swarm of locusts. For war against her consecrate the nations, the king of the Medes, his viceroys and governors, and all the lands under his sway. The earth quakes and writhes; for the Lord's designs against Babylon are fulfilled: to make the land of Babylon an unpeopled waste.

(OSB)

In the event, the Medians did not take Babylon, nor even attempt to, so far as we know. Perhaps the immense walls that Nebuchadnezzar constructed for the city deterred any would-be sackers.

How the destruction of the Urartian centers is to be explained is uncertain, since Babylonian records are of no help to us on that topic. The archaeological record at the several sites indicates that here the destruction occurred in the third quarter of the seventh century BC.²³ In Urartu we are dealing with mountainous, fortified places, against which riders would have been of limited use. We must therefore suppose that although mounted archers would have played a role in the fall of the Urartian kingdom they would have been accompanied by a formidable infantry. In other words, the forces against which the Urartians had to contend could not have been very different from the one that Kyaxares led against the Assyrian centers and Harran three or four decades later.

Herodotos knew nothing of the predatory character of the early Median warlords. He supposed that Deiokes, "Phraortes" and Kyaxares were godfearing and just monarchs, undoubtedly warlike and ambitious, but nothing like the lawless and abominable Skythians. This represents a whitewashing of Median history. If Herodotos learned Median history from a Harpagid source or from other hellenized Medians, it is no surprise that what he tells us about the early Medians is all very commendable, with no hint at all that they had begun as sackers of cities and looters of temples.

Although the episode of riding raiders was relatively brief, coming to an end when raiding evolved into Median imperialism, light cavalry remained an important arm in the Iranian empires until well into the Achaemenid period. Kyaxares seems to have combined a light infantry with a light cavalry, made up of his excellent Iranian horsemen. Like the horsemen, the Median infantrymen depended on the bow for long-range combat, and then on the sword and thrusting-spear for hand-to-hand combat. Such seem to have been the forces that sacked and destroyed the old Assyrian centers between 614 and 612 BC, and the Iranians' armament and tactics may not have changed substantially until the fifth century BC.

The combination of a light infantry with thousands of horsemen armed with both long-range and hand-to-hand weapons was made to order for western Iranians, who seem to have been inveterate riders. Historians have not given Iranian horsemanship the attention it deserves, in large part because our sources on ancient Iran are woefully unsatisfactory. The archaeological record for Iran is still very sketchy: encouraged by Reza Shah and Mohammed Reza Shah, archaeology fell into disrepute in Iran in the 1979 revolution.²⁴ Relief sculptures from Iran have long been known and publicized, but most of those portraying riders belong to the Parthian and Sassanid periods.²⁵ The famous reliefs at Persepolis provide only indirect evidence for riding: like everyone else coming before the King of Kings, the Iranian delegations portrayed on the *Apadana* sculptures are all on foot.²⁶ Documentary sources in Old Persian are propagandistic in character and few in number, and the Elamite tablets from Persepolis are narrowly limited in their subject matter. Literary sources are not of much help either, and occasionally have been quite misleading. Herodotos does not seem to have been aware of the extent to which the Medians and early Persians depended upon their light cavalry, and in any event he barely mentions Iranian horsemanship. Even worse, Xenophon was somehow misled into thinking that although Media had horses, they were virtually unknown in early Persia. Because our various sources provide little explicit evidence for the Iranians' tradition of

riding, the tradition has frequently been underestimated by students of ancient history and military history. In these next pages I shall try to give it the prominence that it seems actually to have had in the seventh, sixth and early fifth centuries.

When Roger Moorey reviewed the limited archaeological evidence in order to assess the “Iranian contribution” to the material culture of Achaemenid Persia, he found that what was quintessentially Iranian was horseback riding:

I have taken as my starting point the single most characteristic aspect of the “Iranian” life-style when set in the broad context of the ancient Near East. In a word this is “equestrianism”: a repertory of distinctive personal equipment (of small arms and ornaments, of costume, and of harness-trappings), with no pedigree in the regions of the Near East west of the Zagros and no known antecedents in Iran before about Iron II (1000–800 B.C.), which was well suited to a people in whose lives the horse and a strong degree of mobility played key roles.²⁷

Costume was perhaps the most obvious reflection of this equestrianism. The most striking component of the “Median costume,” which was worn as commonly by Persians as by Medians, was a pair of pants. The Iranians’ preference for pants is illustrated vividly in their art, from the gold plaque of the Oxus Treasure to the reliefs at Persepolis and on the tomb of Darius II at Naqsh-e Rostam. The Median or Persian fastened his pants with a belt around the waist and with a pair of ankle-straps. This attire was utterly novel in the Near East, where since the beginnings of civilization men had clothed themselves in robes, wraps and tunics, and was disdained as barbarous. The Aramaic speaking population of the Near East borrowed the Iranian words for trousers and belts, but did not choose to wear such things.²⁸

The Iranians’ weapons, like their clothes, were meant for riders. The king’s “weapons bearer” portrayed on a panel from the Persepolis treasury (see Figure 6.1) carries a battle-axe in his right hand, and with his left hand grips the strap from which is suspended a *gorytos* (the combination of quiver and bow-case). At his right hip, hanging from a belt, is a scabbard containing an *akinakes*. This weapon was a dirk or short sword, approximately 40 cm in length, that Greek writers regarded as characteristically Median and Persian, and that served the horseman in a charge and for hand-to-hand combat.²⁹ Not shown in this relief are javelins or short throwing spears, which Greek writers called *palta*. Other sources show that the *palta* were used by Iranian horsemen as a mid-range weapon, to be hurled at opponents who were within twenty or thirty meters.

The hundreds of bronze bits and items of horse trappings from Luristan obviously attest to a society in which horsemanship was of central importance. These bronzes, however, date from the ninth to the seventh century and therefore are not direct evidence for horsemanship during the period of the Median empire, to say nothing of the Persian. The Luristan bronze industry seems to have been extinguished about 650 BC, probably a victim either of Skythian or Kimmerian raiding, or of punitive expeditions that the Assyrian kings sent into Iran.³⁰



Figure 6.1 Drawing of “King’s Weapons-Bearer” from Apadana relief, Persepolis, early fifth century BC; from Moorey 1985, fig. 3; courtesy Roger Moorey and British Institute of Persian Studies, London and Teheran.

An important piece of circumstantial evidence for Iranian horsemanship comes from the Near East rather than from Iran itself. In Chapters 3 and 4 reference was made to the “cavalier” figurines that came into vogue *ca.* 2000 BC but dwindled in number during the Late Bronze Age. Their popularity increased markedly in the first quarter of the first millennium BC and reached its peak in the period of the Median and Persian empires (leading archaeologists to refer to the figurines as “Persian riders”). Moorey has shown that the tradition of such figurines long antedates the Iranian empires, but notes that in the sixth century BC the figurines take on a distinctively Iranian character (see Figure 3.4).

The term “Persian” relates to their dress rather than their ethnicity, and especially to their caps, which imitate those worn by Persian cavalrymen.³¹ Such “Persian” riders have been found by the hundreds, and possibly thousands, from sites all over the Near East. The riders wear the belted trousers that had become standard with the Medians, and when the modeller has attempted to portray arms the rider most often wears a sheath for a short sword on his right side, and the *gorytos* for bow and arrows on his left.³² Although the body of the horse is typically hand-made, the rider has been moulded or stamped, and his facial features may have been meant to recall those of the reigning monarch.³³

Some early Greek evidence, both pictorial and textual, attests to Iranian horsemanship. A number of sixth- and fifth-century Attic vases are decorated with scenes of Persian riders. The painted lid of a sarcophagus from Klazomenai (see Figure 5.4), dating from *ca.* 490 BC, depicts barbarian horsemen riding against Greek infantrymen. The horsemen have put their bows in their *gorytoi* and raise aloft their cutlasses to strike against the men on the ground. Although the horsemen could be generically “barbarian,” it is unlikely that a Klazomenian painter in the early fifth century could have intended them as anything other than Persian.³⁴ Another sarcophagus, this one from Sidon and perhaps made for a Persian official resident there, shows Persian hunters, some on horseback and some dismounted, all dressed in their distinctive “Median” pants.³⁵

When Aischylos wrote his *Persians* in 472 BC he referred (line 26) to the Persians as “horseback riders conquering with the bow.”³⁶ The epithet seems to have been apt in the early fifth century, but after the Persian Wars the Achaemenids set less store by their skills as mounted archers. By the fourth century BC few Persian men could handle a bow while riding, and in the three great battles that Alexander fought against the Persians no mention is made of archers on horseback.³⁷ It is not entirely surprising, then, that Herodotos, who wrote in the 430s and 420s BC, had no first-hand familiarity with Persian horsemanship and knew little about the early Persians’ skills as mounted archers. Nevertheless, the fact that the Iranians had once been riders *par excellence* is latent in several of the stories that came down to him. The story of how Darius’ stallion made his rider king of Persia (3.85–87) is well known. On the Persians’ skill as mounted archers we have already noted the aphorism (1.136) that from the age of five until the age of twenty every Persian boy learns three things, and three things only: to ride, to shoot the bow, and to tell the truth.³⁸ At 1.71.2 the wise advisor Sandanis counsels Croesus not to attack the Persians, a tough lot who lived a tough life. The first sign of their hardihood that Sandanis produced was that “they wear leather trousers.” We must observe, even though Sandanis and Herodotos did not, what the leather trousers denote: the Persians—like the nomads in the Pontic-Caspian steppe—wore leather trousers because they were so often on horseback.³⁹

The Iranians’ prowess in horsemanship was also recognized by the early writer who first put together what became the “Persian army list” that stands in Book Seven of the *Histories*. Although the list is presented by Herodotos as an enumeration of the forces that Xerxes brought to Greece in 480 BC, it seems to have originated as a Greek writer’s survey of the Persian Empire and its military resources. The original was evidently composed during the reign of Darius, and the most reasonable guess is that it was part of the *Periegesis* of Hekataios of Miletus, who wrote *ca.* 500 BC.⁴⁰ The list in effect states that the Persian king enrolled infantrymen from all over his vast empire, but that his cavalrymen—with the exception of those who came from India—were provided

exclusively by the inhabitants of what we would call Iran. The horseback riding *ethnē* specified at 7.84–88 are Persians, Sagartians, Medians, Cissians, Bactrians, and Caspians. Other nations, we are told, provided the king with camel riders and chariots, but only the Iranian nations supplied men on horseback, to the astounding total of 80,000. This number is surely just as inflated as the numbers for the Persian king's infantry, but what is important here is the assurance of the list's compiler that however many horsemen the king needed, he got them from Iran. And the compiler obviously believed that tens of thousands of horses were there available. According to the list all the Persians and Medians—whether on horseback or on foot—wore trousers, and all alike carried bows and hand-to-hand weapons. The compiler thus assumed that in their costume the Iranian infantrymen replicated what originally was horsemen's garb.

Although Hekataios, or whoever the compiler of the list was, knew that Iranian horsemen most often used the bow,⁴¹ Herodotos himself seems to have been unsure of the weapons used by Xerxes' cavalrymen. Herodotos knew that his "Skythians" north of the Black Sea were mounted archers, but rarely does he indicate that the Median and Persian horsemen also were archers. At 9–49 he does say that in the preliminaries to the Battle of Plataea the horsemen of Mardonios "wrought havoc upon the whole Greek army with their javelins and—insofar as they were bowmen on horseback (*hippotoxotai*)—with their arrows." Except for the implications of the armylist this is the first and last indication in the *Histories* that the Persian army included mounted archers. In other references to Persian horsemen at the Battle of Plataea Herodotos speaks generically of missiles (*belea*), and most often seems to have been thinking of javelins.⁴² His statement at 1.103, quoted above, that Kyaxares divided his troops into separate divisions of spearmen, archers, and *hippeis*, shows that the historian did not think of the Median *hippeis* as being archers.

Herodotos' account of the campaigns of the Median and early Persian kings is vague, but suggests that he imagined these kings as depending primarily on infantry forces. When describing the Battle of Sardis, in which Cyrus defeated Croesus of Lydia, Herodotos (1.79) says nothing about the Persians' horsemanship and says instead that the Lydians were consummate equestrians: "At that time there was no *ethnos* in Asia that was more valiant and mighty than the Lydian *ethnos*. They fought on horseback, carried long lances, and were excellent horsemen." Herodotos then implies that Cyrus had no way of countering these mounted Lydian lancers. Cyrus had horsemen of his own, says Herodotos, but he stationed them in the rear of his formation, behind his infantry. Out front, Cyrus placed an array of camels, on the wise counsel of Harpagos, who knew that the Lydian horses would bolt when faced by camels, since horses cannot abide the odor of camel. Again, had Herodotos envisaged the Persian horsemen as archers, he would have seen that Cyrus had no need for Harpagos' clever stratagem. Horse archers, taking their "Parthian shots" at pursuing Lydian lancers, should have been easy victors.

Herodotos' account of Cambyses' campaign into Egypt, in Book Three, makes no mention of horsemen. When the historian tells us (3.25–26) that Cambyses dispatched an army of 50,000 from Egyptian Thebes to the Ammonian oasis, and that after leaving the oasis the entire force vanished in the desert without a trace, he seems to have been envisaging an expedition of infantrymen. Likewise, in his account of Cambyses himself leading a force from Thebes to Ethiopia, only to turn back when faced with starvation, Herodotos seems to have imagined that all were walking. In recounting Darius' great

expedition against the “Skythians” in the Pontic steppe, a story which takes up much of Book Four, Herodotos says almost nothing about mounted troops in Darius’ army. Herodotos of course has all the Skythians on horseback, but insists that the Persian force (which he set at 700,000) was primarily on foot.⁴³ This was of course a strategic mistake of stupendous proportions, as Herodotos told it, because Darius’ infantry could never catch the Skythian riders. Such horsemen as Darius had are never, in Herodotos’ book, portrayed as shooting arrows at the elusive Skythians.

The failure of Herodotos explicitly to recognize the importance of riding in early Persia may have been partially responsible for the egregious statements about the topic in the *Kyroupaideia* of Xenophon. In that long fiction, which purported to show how the young Cyrus became the ruler of the world, Xenophon made the remarkable claim that until the time of Cyrus the Persians knew nothing about horses. When Cyrus went to Media to visit his maternal grandfather, Astyages introduced the little boy to horses. Grandpa Astyages, after giving his grandson a beautiful set of clothes to wear, took him riding:

And Cyrus, being a boy and very fond of nice things and also eager to excel, was very happy about the clothes, and was overjoyed to learn how to ride horses. For in Persia, because it is a mountainous country, it is very difficult to raise horses or to ride horses and it is rare even to see a horse.

(*Kyroupaideia* 1.3.3)

The silence of Herodotos and the misinformation from Xenophon continue to mislead military historians into thinking that the early Persians had few if any horse troops.

Although Media was famous for its horses, Persia was not far behind, as inscriptions in Old Persian proclaim. One of Darius’ inscriptions at Persepolis states this explicitly:

Saith Darius the King: This country Persia which Ahuramazda bestowed upon me, good, possessed of good horses, possessed of good men—by the favor of Ahuramazda and of me, Darius the King does not feel fear of (any) other.⁴⁴

The land of Persia—*Parsa* or *Parsua*—was evidently famous for its horses long before Darius was born. Two gold tablets that surfaced in Hamadan early in the twentieth century bear inscriptions that purport to have been written by Ariyāramna and Aršāma, two early Achaemenid kings who were respectively Darius’ great-grandfather and grandfather. Although the tablets and inscriptions seem to date from the fifth century BC rather than from the early sixth, they are evidence of what the Achaemenids thought that Persia was like in the times before Cyrus of Anshan temporarily stripped the Achaemenids of their royal status. The two great assets of early Persia, they thought, were its men and its horses. Lines 4–9 of the Ariyāramna inscription, in Old Persian, read as follows:

Saith Ariyāramna the King: This country Persia which I hold, which is possessed of good horses, of good men, upon me the Great God

Ahuramazda bestowed (it). By the favor of Ahuramazda I am king in this country.⁴⁵

The Aršāma inscription is almost identical:

Saith Aršāma the King: Ahuramazda, great god, the greatest of gods, made me king. He bestowed on me the land Persia, with good people, with good horses.⁴⁶

The Achaemenids' own description—almost proverbial—of Persia as a land of good horses must be set against the silence of Herodotos and the speculation of Xenophon, neither of whom had set foot in Persia.

In his great Behistun inscription Darius does not describe his army or the armies of his many rivals, nor does he even use such terms as “infantry” and “cavalry.” It is nevertheless clear that light horse troops were a very important arm for both Darius and his opponents in the wars of 522–520 BC. He boasted, for example, of how he went off “with an army” into eastern Iran, to fight against the Sakai “who wear the pointed cap,”⁴⁷ and we can be quite sure that both the Sakai and Darius' men were on horseback. That the Iranian leaders who opposed Darius were riders is indicated only after their defeat, when their horses help them to escape at least temporarily. The end of Fravartīš is illustrative:

Saith Darius the King: Thereafter this Phraortes with a few horsemen fled; a district by name Raga in Media—along there he went off. Thereafter I sent an army in pursuit; Phraortes, seized, was led to me. I cut off his nose and ears and tongue, and put out one eye.⁴⁸

Another competitor on horseback who got away was Vahyazdata:

Saith Darius the King: After that, Vahyazdata with a few horsemen fled; he went off to Paishiyauvada.⁴⁹

Vahyazdata's lieutenant was likewise a rider:

Saith Darius the King: After that, the man who was the chief of the army which Vahyazdata had sent forth against Vivana—he fled with a few horsemen (and) got away.⁵⁰

Darius' own father, Vīštāspa (Hystaspes in Greek tradition), bore a “horsey” name.⁵¹ most importantly, Darius himself took great pride in his own horsemanship. Toward the end of the inscription on his tomb at Naqsh-e Rostam the king boasts of his worth on the battlefield, and an essential part of that was his prowess in mounted combat:

Trained am I both with hands and with feet. As a horseman I am a good warrior. As a bowman I am a good bowman both afoot and on horseback. As a spearman I am a good spearman both afoot and on horseback.⁵²

The inscriptions that survive from the reigns of Xerxes and his successors on the throne make no mention either of their own horsemanship or of the excellence of Persia as a land of horses, and it seems that the later Achaemenids were less proud of this aspect of Persian tradition than was Darius. But in the sixth century BC the Persians were evidently renowned as riders. Like their Median predecessors, the early kings of Persia—Cyrus the Great, Cambyses and Darius—commanded a formidable infantry, and Darius' forces eventually included a navy great enough to take over the islands of the Aegean. But the size of the Persian infantry and navy should not obscure the fact that, at least in the sixth century BC, mounted troops were essential for Persian success, just as they had been for Kyaxares and the Medians, and at a still earlier time for the Skythians and Kimmerians.

HOPLITES AND HORSEMEN

Horsemen were essential to the creation of the Median and Persian empires. Why the Medians were successful against the Assyrians, and Cyrus against Nabonidus and the Chaldaeans, may be partially explained by the character of the armies that opposed them. Both the Assyrians and the Chaldaeans employed cavalries of their own, but for their horses they were dependent especially on the lands east of the Zagros, and those sources were restricted and must finally have been cut off by the Iranians. Although our sources are not explicit on the subject, we have good reason to think that a light cavalry was crucial for Kyaxares in his victories over the Assyrians, and remained the most important arm for the later Median kings and for Cyrus, Cambyses and Darius.

Mounted troops lost their importance in the Persian army during the fifth century, when the Persians came into repeated conflict with the hoplite phalanx. Although the efficiency of the phalanx in infantry combat is well known,¹ little attention has been given to its role in ending the dominance of riders on ancient battlefields. Long-range weapons, whether arrows or javelins, were not very effective against hoplite shields, and if horsemen brandishing swords or spears charged against a disciplined hoplite phalanx the horsemen would have been the losers. In dealing with the so-called “Ionian Revolt” (499–494 BC) the Persians encountered Ionian, Cypriote and Carian infantries. Herodotos reports that the Carians lost the first two battles and more than 20,000 men, but in 497 BC they met the Persians a third time, and annihilated a Persian army.² In these and other battles during the revolt the Persians must have relied mostly on their own (light) infantry, but they also made use of their horsemen. Herodotos knew a story (5.112) about the horse that Artybios, the Persian commander in Cyprus, had taught to do the levade, rearing and striking with its hooves against infantrymen: a Carian cut off the horse’s forelegs as it reared, causing the death of Artybios. The Klazomenian sarcophagus (see Figure 5.4) on which the painter depicted Greek hoplites being attacked by barbarian riders, who were armed with bows for long-range and with slashing swords for close-range combat, may have been made for a Klazomenian who had been killed in action against the Persians in the 490s BC.

Thanks especially to their fleet, consisting of Phoenician and Egyptian triremes, the Persians put down the revolt. In actions on land their horse troops may have contributed something to Persian success, but if so it was the last time that the Persian cavalry was of much help against hoplites. At the Battle of Marathon (490 BC) the Persian horsemen were notoriously of no help at all to Datis and Artaphernes. The Persians had certainly counted on their horsemen. In the year before the expedition Darius had ordered the inhabitants of the coastal cities to build a fleet of horse-transports for the upcoming campaign.³ The construction of these transports and the details of shipping a cavalry (the ships carried fodder and water as well as the horses themselves) would hardly have been undertaken unless Datis and Artaphernes believed that mounted troops were vital to the

success of their mission. How many horses the Persians brought with them we cannot know, but I will guess that they had at least a thousand.⁴

According to Nepos' *Miltiades* 5.3, in order to prevent the Persian cavalry from surrounding the phalanx the Athenian generals decided to give battle between the foothills of the mountains (Kotroni and Agriliki) and a grove of trees. In Herodotos' account of the battle the horsemen are not mentioned. Over the last hundred years many historians have believed that no Persian cavalry was on the scene when the battle was fought, and that had the Persian cavalry been present the Athenians either would not have dared to fight or would have been defeated.⁵ But such a reconstruction is not credible.⁶ When they marched out to Marathon the Athenians were well aware that the Persian army included a sizeable cavalry, and they must have believed themselves capable of dealing with it. Herodotos reports that when the Persians brought their force to eastern Attica they chose to land it at Marathon precisely because the wide plain of Marathon gave their horsemen room to manoeuvre. Other ancient writers assumed that the Persians had cavalry at the battle, and the painting of the battle that Pleistainetos, brother of Pheidias, made for the Stoa Poikile seems to have included horses.⁷ Finally, Herodotos says (6.112) that when they saw the Athenians charging without support from either archers or horsemen, the Persians thought that the Athenians had gone suicidally mad. Herodotos himself seems therefore to have assumed that at Marathon the Persians had cavalry on their flanks, just as they had archers on the ground. As Lazenby has concluded, "the most probable explanation for the absence of cavalry from [Herodotos'] account of the battle is that it actually played no part. The speed of the Greek advance would have precluded its usual hit-and-run tactics, which required a static target to be effective, and there was certainly no place for such cavalry in a hand-to-hand encounter."⁸ I assume that the horsemen kept their distance from the Athenians, and that most of them survived the battle and rode off to await the transports at another harbor. Six hundred years after the battle, Pausanias (1.32.3) reported that people who visited the battlefield at night could still hear the neighing of the Persian horses.

The Athenians lost 192 of their hoplites at Marathon, and Herodotos says that the Persian casualties numbered approximately 6,400. Whether or not that estimate was anywhere near the truth, the Persians promptly evacuated eastern Attica, where they had hoped to set up Hippias as a pro-Persian puppet. We must conclude that the Athenian victory was not a lucky accident, won because the Persian cavalry happened to be away at the time the battle was fought, but was a demonstration that against a sturdy hoplite phalanx a light cavalry was of no more consequence than were archers on foot.⁹ Before the battle the Persians may have thought that an army without horsemen and archers was doomed, but instead the battle was a harbinger of what lay ahead both for long-range combat and for Persia's military dominance.

However monumental the Battle of Marathon was for the Athenians, it was a relatively minor operation for the Persians. The denouement came eleven years later, at the Battle of Plataea. There the hoplites of the Lakedaimonians and their allies destroyed the much larger Persian army that Mardonios commanded. Archers on the ground were Mardonios' main force, with cavalrymen second. The Persian light cavalry made things very difficult for the Peloponnesians as they pulled back from their initial position toward Plataea, but otherwise was irrelevant to the battle. The Persian archers on the ground were not much more effective,¹⁰ and were overwhelmed once the Greek hoplites charged.

Finally, the hoplites closed in on Mardonios himself, riding a white horse and protected by the Persian heavy cavalry, the one thousand “bravest of the Persians” who formed a praetorian guard around their commander.¹¹ Mardonios fell along with all of his mounted guardsmen, and virtually all of his army. According to Herodotos (9.70.5),

So readily could the Greeks slaughter their enemies that of the 300,000 in Mardonios’ army (if we subtract the 40,000 whom Artabazos led away in flight) not even three thousand men survived. Of the Lakedaimonians from Sparta, 91 died in the battle, of the Tegeans, 19, and of the Athenians 52.

The Battle of Plataea put an end to Xerxes’ attempt to conquer Greece, and more generally marked the end of the Persian empire’s expansion. But it was also a watershed in the history of warfare. After Plataea, the Persians themselves conceded that archers and horse troops were no match for a hoplite phalanx.

How well some Persians learned that lesson is clear from the campaign of Cyrus the Younger in 401 BC, from the Battle of Kounaxa, with which that campaign ended, and from the aftermath of the battle.¹² When Cyrus put together a force with which to defeat his brother Artaxerxes II, he knew that Artaxerxes would be protected by a royal guard of heavy cavalry, and that Artaxerxes’ main force would consist of tens of thousands of light infantry together with many thousands of light cavalry, armed now with javelins or *palta* rather than with bows. Against his brother’s army Cyrus raised hardly any horse troops, other than the 600 heavy cavalry who were his personal guard.¹³ While making little or no effort to provide himself with horsemen, Cyrus recruited slightly more than 10,000 Greek hoplites, and it was his intention that the hoplites should charge directly against Artaxerxes and his horse guard. The tactical plan was intelligent, but at Kounaxa the forces of Cyrus were caught by surprise, and in the formation that Cyrus hastily drew up the Greek hoplites found themselves positioned far to the left of Artaxerxes and his 6,000 heavy horsemen. As a result, the hoplites charged against the infantry archers, and it was left to Cyrus himself, with his own 600 horse guards, to charge against his brother’s far larger heavy cavalry. What happened then is not certain. In Deinon’s melodramatic version of the battle Artaxerxes’ first two horses were killed under him, and he was on his third horse when Cyrus hit him with a light spear. Cyrus’ horse, too spirited to be held back, carried its rider into the midst of enemy horsemen, one of whom struck Cyrus in the head with a javelin.¹⁴

While the brothers were battling on horseback, the main action of the battle was on the ground. The Greek phalanx advanced against Artaxerxes’ infantry, who depended upon bows and javelins and whose numbers were wildly estimated at somewhere between 400,000 (Diodoros) and 900,000 (Xenophon). According to Diodoros (14.23.1) “when the two forces were approximately six hundred meters apart the Hellenes shouted the *paian* and at first advanced slowly. But when they got within missile range they broke into a fast run.” Long before they reached the lines where the light-armed Persians had stood, the latter had fled in disorder and thousands of Artaxerxes’ men were slain. Not a single Greek hoplite was killed in the Battle of Kounaxa. Even more amazing is that although thousands of arrows and javelins were sent against it as it charged, of the entire phalanx “no one was in any way wounded in this battle, except that one man on the left

wing was said to have been struck by an arrow.”¹⁵ And in the aftermath of the battle the enormous forces of Artaxerxes (after Cyrus’ death most of the non-Greek troops that had been following Cyrus joined Artaxerxes) were unable to do much more than annoy the hoplites as the latter slowly made their way from central Mesopotamia north to Armenia and eventually to the Black Sea.

When Alexander led his expedition into Asia in 334 BC, the Persian armies he faced were very different from those of the early fifth century. Mounted archers seem to have disappeared entirely: except for the dreadful but ineffective scythed chariots, the Persian horsetroops were cavalymen armed with *palta* and lances. More importantly, the Persians recognized that only with heavy infantry of their own could they defeat Alexander’s Greek and Macedonian infantry. For the battle at the Granicus river the Persian satraps were able to secure several thousand Greek mercenaries, but these were far too few to match Alexander’s 30,000 and the satraps therefore had to resort to their cavalry. At Issus the hopes of Darius III rested especially on some 15,000 Greek hoplites whom he had recruited. When he lost them in that battle, and could find no replacements, Darius’ fate was sealed. He may have had 45,000 cavalymen at Gaugamela, along with tens of thousands of light infantry, but he had nothing with which to defeat Alexander’s heavy infantry.¹⁶

Alexander’s own success as a cavalry commander needs some explanation here. Under Alexander and his successors shock cavalry may on several occasions have turned the tide of a battle. Like the Median and Persian kings, Alexander himself went into battle as a cavalryman, heavily armored of course and surrounded by horsemen who were as heavily armored as he was. The thousand Persian horsemen who protected Mardonios in 479 BC, for example, seem to have been a heavy cavalry unit much like the Companions of Alexander. Although for Mardonios the heavy cavalry probably played a defensive role, acting as a *cordon sanitaire* to protect the commander, under Alexander it became a deadly offensive force. A cavalry charge against a hoplite phalanx was in most circumstances foolhardy, but Alexander is said to have managed it at the age of eighteen: at least one version of the Battle of Chaeroneia in 338 BC seems to have claimed that Philip stretched the phalanx of the Thebans and Athenians into a thin line, only a few ranks deep, and that at a critical moment Alexander launched a cavalry charge against it.¹⁷ How was that possible? The arms and armor (the horses too wore protective breastplates) were important, but more important were the wedge-shape formation of the Macedonian cavalry,¹⁸ and its commander’s timing and judgement. The success of Alexander as a cavalry commander was due in part to his personal bravery (or even recklessness), in part to the fact that he could rely on his Companion cavalry to follow him whenever and wherever he led, and in part to the fact that he was accountable to nobody. He was able to make his cavalry an effective offensive force, that is, because he could act on his instincts without a moment’s delay, and knew that all his men would be with him.

W.W.Tarn brought out very well the situation of an ancient cavalry commander intent on attacking a formation of heavy infantry:

I will take first the matter of breaking the enemy’s line. I have mentioned that there was one thing cavalry could not do, charge an unbroken spear-line; and I have also noticed the difficulty heavy infantry had in

maintaining their line unbroken. Now if you will imagine yourself seated on a horse and watching an advancing line of spear-points, and if something happens to that line whereby the spear-points vanish from one bit of it, leaving a gap, you will realise that that gap must draw you irresistibly to it; that is the point you will certainly ride for. Over and over again, in Hellenistic literature, we get allusions to that gap.¹⁹

Because such a gap was always temporary, only a cavalry commander with quick reactions and supreme self-confidence could exploit it, leading the point of his wedge into it and breaking apart the enemy formation. A lieutenant who sought his superior's approval before launching his attack would always arrive too late, and pay the price. Republics seldom fielded shock cavalries, and the optimum cavalry commander was either a king or a crown-prince, whose father would have little choice but to forgive an impetuous mistake, no matter how costly. Alexander at Chaeronea and Demetrios Poliorketes at Ipsus were of course "accountable" to their fathers, Philip II and Antigonos the One-Eyed. But both Alexander and Demetrios must have had full discretion to launch a charge if and when opportunity offered, and enough self-confidence to do so. Whether Alexander's famous cavalry charges were as consequential as the Alexander-historians made them out to be we cannot know. Although the Macedonian infantrymen at Issus and Gaugamela were probably given less recognition than they deserved, it at least is true that the charges of the Companion cavalry were *seen* as having caused the defeat of the Persians. Alexander, in short, exploited the full potential of shock cavalry, and initiated a brief revival of shock cavalry as an effective arm. As in so many other ways, however, Alexander was the exception who proved the rule.

By and large, the battles of the Classical Greeks show clearly enough that cavalry was generally no more effective against a hoplite phalanx than were light infantrymen. Is it possible that the first heavy infantrymen were meant for defense rather than for offense, and that the hoplite shield may have been first used, early in the seventh century BC, specifically as a defense against raiders on horseback? That has not yet been suggested, so far as I know, and I do so now more to raise the question than to answer it. Some elements of hoplite armor (the helmet and plate corselet found in a late eighth-century grave at Argos) seem to pre-date the advent of mounted combat, and are first attested in mainland Greece. If the phalanx was first used in the Peloponnesos or in central Greece then certainly it was not assembled in an attempt to withstand an attack by riding raiders.²⁰ It is not impossible, however, that the peculiar shield used by hoplites, and some aspects of hoplite tactics, were employed by the Greeks of Ionia before they were used by men on the Greek mainland,²¹ and that the Ionians themselves were anticipated in the use of heavy infantry by their barbarian neighbors. In Anatolia in the first half of the seventh century BC the greatest threat by far, as we have seen in Chapter 5, was posed by tumultuous bands of Kimmerian horsemen, intent on raiding. Midas and the Phrygians may have been harassed by Kimmerians already in the 690s, the Lydians were intermittently raided from *ca.* 670 to the early 640s, and at about that same time the Kimmerians plundered the Artemis temple at Ephesos and destroyed the small cities of Magnesia and Sinope. May the Kimmerian peril have inspired western Anatolians to explore a radically new way in which to defend themselves and the sites that were attractive to the raiders?

What was needed against the riding raiders was a body of infantrymen who, first of all, had some substantial defense against the arrows shot by the mounted archers. Second, and perhaps more importantly, the infantrymen had in some way to immunize themselves against a charge, should the horsemen put away their bows, unsheathe their swords, and gather together for an assault on the infantrymen. For both of these objectives hoplite armor and an elementary hoplite tactic would have served very well. The bronze armor and the big wooden shield of the hoplite would have provided a good defense against the raiders' arrows. And a line of hoplites, or better yet two or three ranks of hoplites, would have stopped a cavalry charge.

We have some reason to suppose that already in the first third of the seventh century BC a primitive kind of heavy infantry had come into being in western Anatolia and specifically among the Carians. Caria was a poorer land than Phrygia, Lydia or Ionia, and although the Carians may have improvised a new kind of warfare in defense of one of their own communities they seem to have specialized in mercenary service for wealthy kingdoms or cities. Shortly before 664 BC Psammetichos I of Egypt hired a force of Carian and Ionian mercenaries. These were probably numbered in the hundreds, although eventually the Saite pharaohs employed thousands of Anatolian mercenaries, and housed them in *stratopeda* in the western Delta. A few inscriptions by Greek mercenaries in Egypt have been discovered, but the Carians are better documented (some fifty of their funerary inscriptions—Carian and Egyptian bilinguals—were found at Saqqara in 1968).²²

Carian mercenaries, or *epikouroi*, were already proverbial when Archilochos was composing his poetry,²³ and Carian soldiers seem to have been in the service of Gyges of Lydia in the 670s or even the 680s BC. Gyges was accused by Ashurbanipal of having sent men to aid Psammetichos, and if the Carians and Ionians were the aid in question then obviously they worked for Gyges before he dispatched some of them to Egypt. A tradition at Labraunda, the great Carian sanctuary of "Zeus Stratios," claimed in fact that Carians had helped Gyges to become *tyrannos* over Lydia, and that the double-axe revered at the sanctuary was a memento of that aid. Plutarch passes on the tradition that when Gyges revolted against Kandaules, the legitimate "Heraklid" king at Sardis, "Arselis from Mylasa came as an *epikouros* to Gyges, with an armed force (*dynamis*). And he put an end to Kandaules and his companion, and fetched the axe back to Caria."²⁴ The *dynamis* that Arselis would have brought with him could hardly have been anything other than a group of heavy infantrymen. Whether or not Carians were instrumental in Gyges' coup, which was staged *ca.* 685, the Labraunda tradition suggests that from early in his rule Gyges employed Carian troops.

These seventh-century Carians would have carried hoplite shields and worn defensive armor. According to Herodotos (1.171.4), the Greeks owed three things to Carian invention: "The Carians showed the way in putting crests on helmets, in decorating shields with symbols, and in attaching *ochana* to shields." The *ochanon* was the center support of the hoplite's heavy wooden shield, the metal bar or leather strap through which the hoplite thrust his left arm (with his left hand he grasped the *antilabē*, on the shield's rim). The shields were of course indispensable for hoplites, and according to a late tradition the shield was called a *hoplon* and so gave the hoplite his name.²⁵ Although we have no way of knowing whether the Carians were in fact the first to attach *ochana* to wooden shields, the claim would hardly have been made unless they carried such shields.

Other evidence for Carian contributions to hoplite warfare are two snippets of Archaic Greek poetry, preserved in Strabo's description (14.2.27) of Caria and its history:

As evidence of their zeal for military things, (my authorities) produce shield-bars, blazons, and helmet-crests. For all of these things are called "Carian." Anakreon, at any rate, says, "Once again through the Carian-wrought shield-bar do I put my hand," and Alkaïos says "shaking the Carian helmet-crest."

Pliny the Elder further credited the Carians with the invention of greaves.²⁶ Although this claim is clearly erroneous, it once again would not have arisen unless Carian infantrymen wore greaves.

In short, the Carians seem to have experimented with hoplite armor and the heavy wooden shield early in the seventh century, and it is therefore not out of the question that they did so in an attempt to foil the mounted raiders who were beginning to plague western Anatolia at that time. Much here must remain nothing more than speculation, but we can nevertheless be quite sure that if some Anatolian sanctuaries *were* protected by men in hoplite armor the sanctuaries would have had a fairly good chance of surviving a Kimmerian raid. Although men wearing defensive armor and carrying heavy shields would have posed no offensive threat to raiders on horseback, they would certainly have put up a stalwart defense. Men on horseback, that is, would have had difficulty in driving off with their arrows defenders who wore bronze armor and carried a stout wooden shield; and against men who had the courage to draw together into a firm line and stand their ground, a cavalry charge would have been futile. So long as the riders were shooting their bows the defenders would probably have been deployed in a long, loose-order line, hoping to envelop the riders. But if the raiders, failing in their attempt to drive off the defenders with arrows, attempted to ride down the infantrymen, the latter would have closed up into a compact formation, against which the horses would not charge. It is of interest that no Kimmerian raid is known to have been made on the unwallled sanctuary of "Zeus Stratios" at Labraunda or on any other Carian center. Neighboring Miletos, one of the wealthiest Greek cities in Anatolia, also seems to have come through the Kimmerian crisis unscathed.

Whether or not the hoplite phalanx originated as an attempt to thwart Kimmerian or other raiders, it proved to be a most effective counter to mounted warriors. Heavy infantry enabled the mainland Greeks to maintain their autonomy against the Persian Empire, and more broadly gave the states of the Mediterranean world a military edge over "horse peoples" for almost a millennium and a half. Until the end of antiquity heavy infantrymen retained their superiority over cavalry. When Trajan, Lucius Verus, and Septimius Severus made their expeditions into southern Mesopotamia they apparently had little concern about the Parthians' cavalry, and in 363 the Sassanid horsemen (Ammianus noted that the Sassanids depended mostly on cavalry) kept their distance as Julian's huge infantry marched all the way to Ctesiphon. Thirty or forty years after Julian's death, the military writer Vegetius directed his attention to the training and deployment of infantrymen: as Vegetius saw things, the *equites* were still the "wings" of an army, useful for scouting, flanking and pursuit, but the brunt of the battle was borne by the *pedites*. It is true that in the third century horsemen had begun to be a menace,

but—as in the seventh century BC—their specialty was once again the raid. Gothic and Arabic horsemen, doing their best to avoid confrontations with imperial Roman armies, headed for rich and undefended cities (except for colonies of veterans, the cities of the Roman empire had no citizen militias). When the Goths triumphed in a pitched battle, as they did in the Dobrudja in 251 and at Adrianople in 378, their horsemen contributed significantly to the outcome but their infantries did most of the fighting.

To summarize this investigation, we may conclude that good riding began in the eleventh or tenth century BC, when men in the horse-breeding lands of western Asia began to use bronze bits to control their horses. Mounted combat began not much later and certainly by the early ninth century BC, our earliest evidence for it coming from eastern Anatolia and northwestern Iran. Initially men on horseback may not have posed a grave military threat to kingdoms or cities. Late in the eighth century BC, however, Kimmerians began to show up in cuneiform texts, and there is some reason to think that in 705 BC mounted Kimmerians defeated and killed Sargon II. In any case, by the beginning of the seventh century BC a new chapter in the history of warfare had begun. Their vast supply of horses and their skill as mounted archers made it possible for western Iranians to dominate the ancient world for more than two hundred years. The domination began with raids by Kimmerians and Skythians. These tumultuous bands of horsemen excelled at surprising and sacking unfortified towns and small cities, and for much of the seventh century BC they terrorized the civilized world from Urartu to the Aegean coast and south to the borders of Egypt.

Riders alone, however, were seldom able to take a walled city, and did not conquer and hold territory. Late in the seventh century Kimmerians and Skythians were superseded by Medians. Kyaxares, whose army included a light infantry as well as a powerful cavalry, defeated the Assyrians and sacked the Assyrian palaces and temples. An important factor in Kyaxares' success was surely that he had an inexhaustible supply of horses and horsemen, and that he was able to shut off the "horse tributes" from Iran that the Assyrians required. Kyaxares or an earlier Median warlord may also have been responsible for the destruction of the fortified centers in Urartu, although we have no textual evidence on those events. Eventually the Medians created an empire, but toward the middle of the sixth century they were in turn bested by Cyrus of Persia. For the early Persian army too, I have argued, cavalry was a very important element. The degree to which the Medo-Persian empire in the sixth century BC depended upon horsemanship has been obscured by Herodotos and Xenophon, neither of whom was aware how vulnerable Assyrian and Chaldaean infantries had been to the Iranian cavalries.

Finally, the hoplite phalanx brought to an end the first flowering of mounted combat. The Persians' emphasis on their horsemanship persisted until their defeat by Greek hoplites in the early fifth century: after Plataea the Persians conceded that against a heavy infantry neither a cavalry nor a light infantry was of much value. After the Greek phalanx was bested by Roman legions both tactics and weaponry changed, but it was still a heavy infantry that won or lost battles.

The dominance of heavy infantry from the Persian Wars to the end of antiquity should not overshadow the fact that for some two hundred years—from the reign of Sargon II to the reign of Darius I—men on horseback had lorded it over western Asia. As Gimbutas and others insisted, the beginnings of mounted combat did indeed unsettle much of the ancient world. The upheaval took place, however, not in the dim prehistory of the

neolithic period but in the eighth, seventh and sixth centuries BC. Historians have had difficulty recognizing this revolution in warfare because the evidence for it is circumstantial rather than explicit, and comes as much from archaeology as from documentary and literary sources. It is paradoxical that an episode so obscure in our sources was so consequential for history. In fact it would not be an exaggeration to say that in the second quarter of the first millennium BC it was armed riders who made history.

NOTES

1

Introduction

- 1 In reviewing the volume in which Renfrew 1998 appears, Andrew Sherratt commends the debunking of what Renfrew called “the myth of the nomad warrior horseman in the Bronze Age... [and its] baleful influence upon Indo-European studies.” Sherratt adds, however, that “it is hard to believe that this is a view taken seriously nowadays, at least by anyone likely to read this volume. However, like many archaeological myths, it is still circulating in the realm of popular science, and perhaps deserves explicit confrontation somewhere” (Sherratt 1999, p. 156).
- 2 Some Classical Athenians supposed that the Amazons were the first riders. Lysias (*Funeral Oration* 4) recalled for his audience how the Amazons, daughters of Ares, were the first to ride horseback (πρώται δὲ τῶν πάντων ἐφ’ ἵππους ἀναβάσαι) and so conquered one nation after another until they took on the Athenians, by whom they were soundly defeated. See Tyrrell 1984 for the growth of the myth.
- 3 For example, Martin Fickelscherer, *Das Kriegswesen der Alten* (Leipzig: Verlag des litterarischen Jahresberichts, 1888), p. 17, noted that Diomedes and Odysseus leapt on the backs of Rhesos’ horses, but that in Mycenaean times nobody fought on horseback: “einen Kampf zu Pferde kennt die älteste Zeit jedoch nicht.”
- 4 Sulimirski 1952, p. 448, noted that the Assyrians introduced a cavalry into their armies, “mais elle ne pouvait qu’un rôle secondaire et servait sur tout a la poursuite de l’ennemi vaincu.”
- 5 Yadin 1963, vol. 1, p. 5.
- 6 Keegan 1993, p. 177; Ferrill 1997, pp. 73–74; Dawson 2001, p. 189.
- 7 Hermes 1935, 1936 and 1937. This three-part study remains useful, even though some of her assumptions (e.g. that the Proto-Indo-European speakers were pastoral nomads) were unlikely, and some of her conclusions (e.g. that the metal bit and the organic bit came to Europe at the same time) were wrong. I know of no subsequent publications by Gertrud Hermes.
- 8 In notes at Wiesner 1939, pp. 18, 22 and 43 brief references are made to Hermes’ articles, but evidently Wiesner wrote most of his monograph before seeing Hermes’ work. He treated neolithic Europe only in passing, and concluded (p. 17): “Im Neolithikum ist das Pferd in allen europäischen Kulturkreisen mit Ausnahme Italiens und der Ägais bekannt: Funde aus Grab und Siedlung sprechen für seine Zähmung.”
- 9 Wiesner 1939, p. 40: “Die Indogermanen waren somit ursprünglich keine Reiter, sondern Fahrer im Gegensatz zu den innerasiatischen reitenden Hirtenvölkern, die wiederum dem Wagen fremd gegenüberstehen. So darf mit Sicherheit festgestellt werden, dass die indogermanische Pferdezucht nicht innerasiatische Herkunft ist.” See also pp. 44–46.
- 10 Potratz 1938, pp. 11–16.
- 11 Potratz 1940, pp. 390–91, and still maintained in Potratz 1966, pp. 47–48 and p. 226.
- 12 On the “tamed” horse in neolithic Europe, see Potratz 1938, pp. 49–61; on the inability of horses to pull heavy loads with the ancient method of yoking see Potratz 1940, p. 388.
- 13 Potratz 1938, pp. 22–24, and Potratz 1940, 391. In concluding that the Bell Beaker users were mounted archers he noted the many arrowheads found at Bell Beaker sites, and

- observed (Potratz 1940, p. 389) that “bekanntlich sind bei allen Reitervölkern aus verständlichen Gründen gerade Pfeil und Bogen die hauptsächlichen Waffen.”
- 14 By Ole Klindt-Jensen, in *Antiquity* 32 (1958), pp. 63–64. The best review by far (although itself too long to have attracted many readers) is Wiesner’s, in *Gnomon* 31 (1959), pp. 289–301.
 - 15 Smirnov 1961. See the comments on this article in Littauer 1969, pp. 298–300. Khazanov 1984, pp. 91–92, accepted Smirnov’s arguments and posited a beginning of efficient riding ca. 1500 BC.
 - 16 Peter Raulwing uses the sobriquet in his fine assessment of the contributions made by Littauer and Crouwel; see Littauer, Crouwel and Raulwing 2002, p. ix.
 - 17 For a complete bibliography of Littauer’s and Crouwel’s works see pp. xxxvii–xlvi in Littauer, Crouwel and Raulwing 2002.
 - 18 Littauer and Crouwel 1979, pp. 134–37. At p. 46, in commenting on a cylinder seal that possibly shows a rider trampling a prostrate enemy, Littauer and Crouwel note that “an active role of riding in warfare is indubitably documented only in the earlier 1st millennium B.C.”
 - 19 Littauer and Crouwel 1979, pp. 25, 68 and 137, n. 133; cf. Littauer and Crouwel 1996b, pp. 936–37. Their assumption was based on the Dereivka excavations.
 - 20 When writing his *The Aryans* Childe assumed that the PIE speakers rode horses, but he did not develop the argument (see Childe 1926, pp. 109, 183, and 190–91). In 1941 Grahame Clark published his “Horses and Battle-axes” in opposition to the view—briefly accepted by Childe but promulgated especially by Otto Rydbeck—that the ridden horse was essential for the battleaxe cultures of neolithic Europe. Clark observed that although Rydbeck himself had imagined the neolithic Europeans as using their battle-axes while riding horseback, some of Rydbeck’s supporters were embarrassed by the absence of evidence for riding. “Rydbeck’s own pupil, J.-E. Forssander, while seizing upon a facile explanation for the spread of the battle-axe people, was careful to avoid subscribing to the view that they actually rode the horse. Again, Professor Childe, in commending to readers of *Antiquity* (1934, p. 122) Rydbeck’s ‘suggestion that the rapid spread of the battle-axe cultures is due to the fact that their authors possessed a hitherto unknown means of transport -the tame horse’ is careful not to be more specific” (Clark 1941, pp. 52–53).
 - 21 The fullest presentation of Gimbutas’ theory is *The Kurgan Culture and the Indo-Europeanization of Europe: Selected Articles from 1952 to 1993*, an anthology edited by two of her students, Miriam Robbins Dexter and Karlene Jones-Bley (see Gimbutas 1997). The volume ends with a previously unpublished article, “The Fall and Transformation of Old Europe: Recapitulation 1993,” which is Gimbutas’ last discussion of the topic. Because Gimbutas revised many of the earlier articles for this publication, however, the collection does not reflect the evolution of her thought over her forty-year career. In 1956 she believed that “the Kurgan invasion” occurred in the second millennium BC, and by the early 1960s she was dating it to the years 2400–2200 BC (see Gimbutas 1963, pp. 833–34). When the results from Dereivka came in, Gimbutas raised the dates for the beginning of the Kurgan invasions from the late third to the late fifth millennium BC (Gimbutas 1970, p. 177).
 - 22 A prehistorian specializing in the archaeology of eastern Europe and the Pontic-Caspian steppe, Häusler began publishing his criticisms of the Kurgan theory in the early 1970s. Because these were written in German and tended to appear in journals with limited circulation they did not receive much attention from Anglophone scholars. Two recent, direct, and relatively accessible critiques of the Kurgan theory are Häusler 1994 and Häusler 1999. In the former he takes on “die Wahle-Güntert-Gimbutas Version der Kulturgeschichte Mitteleuropas” (Häusler 1994, p. 217), arguing that the Kurgan theory was formulated during the 1930s by Ernst Wahle and Hermann Güntert. Häusler concludes (p. 247): “Wir können also feststellen, dass für das 5., 4. und 3. Jt. v. u. Z. aus archäologischer Sicht keine Belege vorliegen, die die Hypothese von der Existenz von Pferdenomaden oder von der

- Kenntnis des Reitens in Ost- und Mitteleuropa zu dieser Zeit bestätigen könnten.” More trenchantly, Häusler 1996 concluded that the Kurgan theory was in essence a “Phantasieprodukt.” Although I find many of Häusler’s criticisms of the Kurgan theory on target, I am not persuaded by his own anti-diffusionist explanation for the spread of the Indo-European languages. In a nutshell, Häusler believes that the several Indo-European sub-groups (Baltic, Celtic, Germanic, Greek, Indo-Iranian) were autochthonous developments, having evolved more or less *in situ*, over an immense area that stretched from the North Sea to the Adriatic and the Caspian, and over a long period of time that began “at the latest” (Häusler 1999, p. 158) in the mesolithic period.
- 23 Although the main findings came from the 1960–67 operations, the excavators returned to the site for a final season in 1983.
- 24 See Telegin 1986: *Dereivka. A Settlement and Cemetery of Copper Age Horse Keepers on the Middle Dnieper*. Mallory edited the volume and translated Bibikova’s articles into English, including them as appendices.
- 25 Bökönyi 1978, p. 18.
- 26 Azzaroli 1985, pp. 6–7.
- 27 For Anthony’s (unpublished) doctoral dissertation, *The Social and Economic Implications of the Domestication of the Horse*, see Anthony 1985; for the *Current Anthropology* article see Anthony 1986.
- 28 Most recently, archaeologist Sandra Olsen, who is studying the horse bones from Botai, in northern Kazakhstan. Olsen believes that the inhabitants of Botai pioneered horseback riding six thousand years ago. See Weed 2002, pp. 58–60.
- 29 Diamond 1991, p. 244, supposed that “with horse domestication the steppe peoples became the first to put together the economic and military package that came to dominate the world for the next 5,000 years.” Diamond 1999, p. 77, generalizes that “the transformation of warfare by horses began with their domestication around 4000 B.C., in the steppes north of the Black Sea.” See also Diamond 1999, p. 91: from ca. 4000 BC onward “horses may have been the essential military ingredient behind the westward expansion of speakers of Indo-European languages from the Ukraine.”
- 30 O’Connell 1995, p. 81.
- 31 Häusler has focused primarily on wheeled vehicles, and not on riding. Levine 1999 is excellent on the physical (especially osteological) evidence for horse domestication, and in passing (pp. 5 and 10) takes issue with the belief in early rider-warriors. For Renfrew’s extended critique of Gimbutas’ thesis about horsemanship see Renfrew 1998. For a concise but valuable overview of the horse in ancient warfare, from the Bronze Age to the seventh century AD, see Renfrew 1999, pp. 2–3. Most succinctly, Renfrew 2000, p. 44: “The mounted warrior nomad horseman does not make his appearance until the end of the second millennium.” Also well worth reading is Elena Kuzmina’s recent article, which concludes that “warrior-horsemen appeared in the steppes, not in the fourth millennium BC but at the end of the second millennium BC” (Kuzmina 2000, p. 122).
- 32 For more detailed and thoroughly readable surveys see Trench (1970), Azzaroli (1985), and Clutton-Brock 1992.
- 33 Although he had not seen them himself, Herodotos reports (4.52) that in his day wild white horses grazed along the upper Hypanis (Bug).
- 34 See Budiansky 1997, pp. 109–25, for an excellent description of the horse’s vision and visual perception.
- 35 Martin 1950, p. 18: “From thirteen to fourteen hands in height, watered once a day and for the most part grass fed, the Mongol pony is unsurpassed the world over for stamina.”
- 36 The scientific names for these are *Equus ferus ferus* and *Equus ferus przewalskii*.
- 37 Nobis 1971, pp. 54–55, concluded from bones found in Germany and Russia that in the Upper Paleolithic period most wild horses had a withers height of between 148 and 154 cm.

38 Bibikova 1970, p. 159, found that of the twenty-one individuals from Dereivka whose height she could estimate, sixteen measured no more than 137 cm, and only one stood over 143 cm.

2

Horsemeat

- 1 Levine 1999, p. 27, noting “the British taboo against eating horse meat,” finds that research on horsemeat consumption has barely begun: “Although the subject is of great relevance to our understanding of the dynamics of human adaptations, it has, with the notable exception of Gade (1976), as yet received little attention.” In addition to Gade’s article, see also Becker 1994.
- 2 In Spain the decline was more rapid: horse bones there accounted for approximately 20 percent of the ungulate bones found at Upper Paleolithic refuse sites dating *ca.* 16,000 BP, but by 11,000 BP the percentage of horse bones had declined to 5 percent. See Altuna 1998, p. 31. In parts of Britain the horse was still the hunter’s primary prey *ca.* 10,000 BC. A site called Gough’s Cave, dating from about that time, has yielded “over 200 stratified specimens of horse (*Equus ferus*), and some 40 stratified specimens each of red deer (*Cervus elaphus*) and hare (*Lepus timidus*). There is direct evidence of human utilization of all three forms” (Burleigh *et al.* 1991, p. 233).
- 3 “Europe” is often understood as all of Eurasia west of the Ural mountains, at approximately the 60th meridian east of Greenwich. On such a definition Romania, Belarus, and even Ukraine lie in central Europe. In the interests of clarity, I shall in this book use the term “Europe” rather narrowly, and in contradistinction to the Pontic-Caspian steppe. Europe’s eastern limits will here coincide with the Gulf of Finland and the eastern arc of the Carpathian mountains, at approximately the 30th meridian. Most of Romania, in other words, is here included in “eastern Europe,” but Ukraine is not.
- 4 Müller 1994, p. 179, noting that horse bones account for only 17 of 5,506 bones found at early neolithic sites in central Europe, concluded “dass das Pferd in dieser Zeit in Mitteleuropa noch kein Haustier war, sondern ein Wildtier, das nur gelegentlich gejagt wurde.”
- 5 Schwartz 1998, p. 511 and Table 1. The eleven horse bones found at Polgár-Csöszhalom sites contrast with 5,823 bones from domestic cattle, 3,511 from domestic pigs, 1,912 from aurochs, and 4,026 from red deer.
- 6 See, for example, Hančar 1956, p. 542: “In drei Räumen Eurasiens reicht nach heutigem Forschungsstand die Pferdezucht bis Mitte des 3. Jt. zurück (Tab. 12): In Nordeuropa, in der Waldsteppe am oberen Dnjestr (Tripoljekultur) und in der sibirischen Waldsteppe.”
- 7 What are indisputably horse bones have been found in late chalcolithic levels at five sites where rescue excavations (necessitated by the building of the Keban Dam) have been conducted. Bökönyi 1991, pp. 123–24, argued that domestic horses were brought to the Altinova plain in the late fourth millennium. Summers 2001, pp. 289–90, argues that the Altinova horses may have been wild.
- 8 Anthony 1991, p. 273.
- 9 Bökönyi 1978, p. 25 and Bökönyi 1987, p. 137. Bökönyi 1978, pp. 21–22, identifies these Romanian horses of the late fourth millennium as domestic horses because “more than 100,000 animal remains from several dozen neolithic sites in the Carpathian Basin have been studied and not one neolithic horsebone has been identified.” Contra: Sherratt, 1997b, p. 218.
- 10 See Benecke 1994, p. 133, Abb. 4, and pp. 138–40, Tabelle 3. In Benecke’s entire *Mitteleuropa* horse bones accounted for a little more than 1 percent of the total for the fourth millennium, but some 7 percent for the third millennium.
- 11 On the Carpathian Basin see Anthony 1991, p. 273. On Csepel-Háros see Harding 2000, pp. 135–6. As Harding’s Fig. 4.5 shows, at other Bronze Age sites in eastern Europe (Hungary,

- Romania and Serbia) the horse accounts for between 3 percent and 13 percent of the ungulate bones.
- 12 Rassamakin 1999, pp. 87–91, 122–23, and 128, challenges Telegin’s early dating of Dereivka, and concludes that the occupation level should be assigned to the late fourth millennium BC. More basically, Rassamakin (pp. 69–71) denies the existence of a Srednij Stog culture. Srednij Stog, the site which gave its name to the culture, is an island in the great eastward bend of the lower Dnieper. Before World War II archaeologists excavated a neolithic and chalcolithic settlement on the island. In the decades since the war other sites have been found which, on the basis of one parallel or another, have been assigned to “the Srednij Stog culture,” but Rassamakin argues that the sites in question belong to various chronological periods (what have been seen as “regional variations” of a single Srednij Stog cultural zone, Rassamakin argues, are reflections of considerable diachronic change). On the carbon dates for Dereivka see Rassamakin, p. 128.
 - 13 In Table 5, p. 84, in Telegin 1986 *Equus caballus* accounts for 2,412 (74 percent) of the 3,265 bones that came from what Telegin and paleozoologist V.I. Bibikova classified as domestic animals. As classified by Telegin and Bibikova, only 673 bones at Dereivka came from wild mammals (two thirds of these bones came from the red deer and the roe deer). However, if the horses eaten at Dereivka were wild rather than domestic then wild animals supplied about three fourths of the villagers’ meat.
 - 14 Drews 1988, p. 76.
 - 15 Bibikova 1969, p. 175: “The distribution of the horse remains from Dereivka according to sex is extremely informative. Of the 17 incisor parts of the skull which are well preserved, 15 of these belong to male skulls and only two to female skulls. Such an obvious preference may be explained by selection during butchering which is only possible with domestic animals.” See also Telegin 1986, pp. 82–87, “Horsebreeding at Dereivka,” and his statement at p. 82: “It is noteworthy that, judging by the skulls of the butchered horses, the overwhelming majority of them (over 80 percent) were male. This kind of selection for animal slaughter is naturally possible only in a domesticated stock.”
 - 16 Bibikova 1969, p. 175.
 - 17 On the domestic origin of the horses eaten at Dereivka see Anthony 1986, p. 295: “Analysis of the age and sex ratios of the horses from the Sredni Stog site of Dereivka has provided clear evidence for controlled management and butchering, strongly implying domestication (Anthony 1985: chap. 3; Bibikova 1969). Fifteen of the seventeen sexable horse mandible fragments from the site were those of males, and almost all of these were juveniles or young adults; there were no ‘old’ individuals (Bibikova 1969). Such a profile would not result from predation on wild horse bands, which normally consist of a stallion and his harem and would therefore yield a preponderance of females.”
 - 18 See especially Levine 1990, for detailed argument; for Häusler’s skepticism about the domesticity of the Dereivka horses see Häusler 2000, p. 311.
 - 19 For the Mirmoe horses see N. Benecke 1998. The age analysis was based in part on tooth development and in part on evidence for post-cranial epiphysis. Häusler 2000, 311–12, agrees with Benecke that the Mirmoe analogy indicates that the Dereivka horses were killed by hunters.
 - 20 In his survey of the “heads and hoofs” burials Piggott 1962 concluded that “the rite can be traced back continuously to before 2000 BC.” In Mallory 1981 the Dereivka burial is far the earliest, followed by two burials from the Yamnaya period.
 - 21 Telegin 1986, pp. 31–35. Bibikova devoted the whole of her 1967 article to this burial; see Bibikova 1967, pp. 135–49.
 - 22 For the role of the Dereivka stallion in changing opinions among archaeologists and anthropologists see, for example, John Noble Wilford’s article, “Old Statuette traces Horse to 2300 B.C.,” in the 3 January 1993, edition of the *New York Times*. Wilford quotes Juris Zarins, an anthropologist and an expert on the role of horses in the early Near East (see

- Zarins 1976). According to Wilford, “Determining the earliest use of the horse has long been a problem of archeology. Recent discoveries support theories, held by Russian anthropologists, that people began riding horses at least 6,000 years ago in the nomadic societies of what is now Ukraine and southern Russia. Such an early date could mean that horseback riding was the first significant innovation in human land transport, not the invention of the wheel. Only later did the practice spread south to Mesopotamia. Dr. Zarins said the interpretation of the earliest partnership between horse and human ‘is now beyond dispute.’ An analysis by David W. Anthony, an archeologist at Hartwick College in Oneonta, N.Y., of the wear by ancient bridle bits on a 6,000 year-old stallion’s tooth was crucial in settling the issue.”
- 23 Anthony and Brown 2000, p. 75.
- 24 For a brief discussion of the evolution of bits see Anderson 1961, pp. 64–78, and Azzaroli 1985, pp. 17–20. For an overview of the second-millennium *Stangenknebel* see Hüttel 1994, pp. 208–10. For detailed discussion of the *Stangenknebel* see Hüttel 1981, pp. 66–99, and for a catalog and drawings of 135 of them from Europe and the steppe see nos. 35–169 in that volume. For a dozen more from Anatolia see his Tafel 42.
- 25 See, for example, Hüttel 1981, nos. 37–59.
- 26 For the artifacts in question see Telegin 1986, pp. 15–17, 82–88, and Figs. 12.6 and 51. For detailed argument against identifying the perforated antler tips as cheekpieces see Rassamakin 1999, p. 147. Rassamakin concludes, “it is quite clear that the claimed presence of cheekpieces at Dereivka was dictated exclusively by the abundance of horse bones at the settlement.”
- 27 See Figs. 8–11 in Clark 1970 for perforated antler pieces, used in mesolithic communities as netting-needles, mattock-heads, and harpoon-heads.
- 28 On the ubiquity of antler and bone tools and weapons see Telegin 1986, pp. 65–69.
- 29 Dietz 1992, p. 29, notes that the single perforation divides most of the supposed cheekpieces into unequal parts: “Der Backenriemen, der die Lage des Mundstücks im Maul sichert, könnte sicher nur am längeren Ende angeknüpft werden, was die Zaumzeugkonstruktion extrem labil und damit unbrauchbar machte.” For her catalog of the early first-millennium bronze bits of the Pontic-Caspian steppe see Dietz 1998.
- 30 Telegin 1986, pp. 33–34.
- 31 Telegin 1986, p. 15.
- 32 Telegin 1986, p. 17.
- 33 Telegin 1986, p. 35.
- 34 Kuzmina 2000, p. 119. For detailed discussion see Dietz 1992. Lichardus and Lichardus-Itten 1998, p. 354, n. 3, dismiss Dietz’s objections as either ill-informed or “nothing new.” It is true that some of Dietz’s objections had, as she points out, been stated already in Hermes 1935 (and have subsequently been too often ignored).
- 35 Bokovenko 2000, 304: “The earliest stage of the development of horse riding equipment occurred during the Bronze Age (middle to the end of the second millennium BC). At first, the primitive horse bridle consisted of a plaque cheekpiece with prongs on one side; this was followed by the development of the bar cheekpieces, carved from horn, with three holes and strap bits that were not firmly fixed.” In the next period (ninth to seventh centuries), cheekpieces—usually with two or three holes—“were of the most different and difficult types, and were designed to be fastened to the bits with special small straps” (p. 305).
- 36 Hüttel 1981, pp. 12 and 20, tentatively accepted Telegin’s identification of the Dereivka tines as cheekpieces, but insisted that because they established no continuing tradition they cannot be regarded as “prototypes” of the *Stangenknebel* of the European Bronze Age.
- 37 Anthony and Brown 2000. For Sandra Olsen’s arguments that the Botai villagers were good riders ca. 4000 BC see Weed 2002.
- 38 Levine 1999, pp. 11–12; cf. Levine and Kislenko 1997, p. 299.
- 39 Hančar 1956, p. 552. See also Sherratt 1997, pp. 217–18.

- 40 Cf. Telegin 1986, p. 82: "That the Dereivka horse was adapted to riding is proven by at least two facts: firstly, it is impossible to pasture herds of these swift-footed animals without riding one of them; and, secondly, the habitation site's complex of artifacts contains bridle cheekpieces. The absolute necessity of having mounted herders for grazing horse droves is also emphasised by other scholars, e.g. Kovalevskaya." Anthony 1986, p. 310, concurred: "Dogs are of little help in horse herding—one needs a mount to control a horse band and protect it from the abduction efforts of wild stallions."
- 41 Levine 1999, p. 10.
- 42 Clutton-Brock 1992, p. 12.
- 43 Azzaroli 1998, p. 41; cf. Azzaroli 1985, p. 6: "No herdsman afoot will ever be able to keep a herd of horses under control, not even with the help of dogs: but horses are naturally gregarious and would easily follow another horse, no matter whether it be mounted or not. The horse was largely used for meat, but before that man had to learn to ride it."
- 44 Bökönyi 1978, pp. 22–23; Barclay 1982, p. 246. Even specialists who correctly insist that military riding was impossible in the fifth and fourth millennia BC have accepted the assumption that men on horseback were at that time managing horse herds. See, for example, Raulwing 2000, in footnote 32 on pp. 26–27: "The question whether 'riding' antedated 'driving' or vice versa cannot be reconsidered here... What seems to be certain, though, is that horsebreeders must be able to ride." Stefan Zimmer, arguing that military riding did not begin until the second millennium BC likewise concedes that riding was "clearly essential" for managing horse-herds, and that it is therefore "incontestable" that riding began soon after horses were domesticated. See Zimmer 1994, p. 34: The riding of horses "unbestreitbar schon in einem sehr frühen Stadium der Domestikation gerechnet werden muss; zur Kontrolle von Pferdeherden scheint die Fähigkeit zum Reiten geradezu unerlässlich."
- 45 Gimbutas 1970, p. 78. That paper was delivered at a conference in Philadelphia in 1966.
- 46 Opinions differ on how difficult this may have been. Anthony 1991, p. 266, sees it as fairly easy: "Within the Sredni Stog culture horses were maintained as a food resource for over 600 years. Mounting a horse requires very little imagination and no new technology. A fairly docile mare might be ridden successfully by any boy with a modicum of determination." Downs 1961, pp. 1193 ff., was much more pessimistic that horses could have been ridden at all in the fourth and third millennia.
- 47 In the Sinai peninsula rock carvings that probably date from ca. 2000 BC show Asiatic chieftains being carried by asses. According to Littauer and Crouwel 1979, p. 66, "the riders...are apparently seated sideways, their asses being led (by a line attached to a nose-ring) by attendants on foot."
- 48 Potratz 1938, pp. 20 ff., and Potratz 1940, pp. 385–92, argued that riding must have begun almost as soon as horses were domesticated, and I think that is correct. What Potratz did not do, either in his early publications or in his later survey (Potratz 1966, p. 67), is differentiate between stunt-riding and serious or practical riding. He supposed that riding in the third millennium BC was more or less the same as it was in Greco-Roman antiquity, and that after the third millennium BC no significant improvement in riding was made until the Middle Ages, when the metal stirrup for the first time made true cavalry tactics possible.
- 49 Levine 1999, pp. 20–29
- 50 Levine 1999, p. 22.
- 51 Bibikova 1969, pp. 167 and 170. The site at Repin (not far from Volgograd) was a settlement with a Yamnaya cultural assemblage.
- 52 Telegin 1986, pp. 180–81.
- 53 Levine and Kislenko 1997, p. 299: "it has been estimated that, during the 15 years of Botai's excavation, over 300,000 artefacts and ten tons of bones—99–9 percent of which belonged to horse—have been uncovered." Anthony and Brown 2000, p. 83: "At Botai, horses account for 99.9% of the 300,000 identified animal bones." Botai is located near the northern border of Kazakhstan, some six hundred miles northeast of the Aral Sea.

- 54 According to Benecke 1998, p. 89 and Table 1, just under 82 percent of the bones at Mirnoe came from the aurochs, and 14 percent from the wild horse. Wild ass, wild boar, deer and a few other species are represented by a very few bones.
- 55 Tripolye villages have been found especially in the valleys of the Bug, Dniester, and Prut rivers. Bibikova 1969, p. 55, says that “with regard to the Tripolye one can speak quite definitely of a relatively small quantity of horse and an insignificant role for it in the economy.” In her Table 2, on p. 170, the percentage of horse bones in Early Tripolye is a minuscule 0.5 percent. In Late Tripolye the percentage increases to 9–6 percent.
- 56 Becker 1994.
- 57 Lichardus and Lichardus-Itten 1998, pp. 353–54.
- 58 Powell 1970, p. 5; Müller 1994, p. 182.
- 59 For a recapitulation of the argument see Lichardus and Lichardus-Itten 1998, pp. 354–55. For convincing arguments that these were not cheek-pieces see Dietz 1992.
- 60 Dietz 1992, p. 22, notes that the broken “cheekpiece” from Grave 21 at Tangermünde measures 28.6 cm, and that its original length is estimated to have been 35 cm. Experiments in applying these huge “cheekpieces” to the cheeks of living horses have shown that “diese Stücke ragten mit ihren Enden weit über die Schädelkontur heraus” (Dietz 1992, pp. 24–25).
- 61 The Yamnaya culture has been placed as early as 3500–2400 BC, but Rassamakin 1999, pp. 125 ff., lowers its dates to *ca.* 3000–2300 BC.
- 62 For a balanced presentation of this view see Mallory 1989, pp. 210–15.
- 63 Jettmar 1966, p. 3, noted that one of the surprises for Soviet archaeologists working in the steppe was to learn how late was “die Entstehung der Reiternomaden”: the fully sedentary Andronovokultur survived until *ca.* 800 BC. Rassamakin 1999 presents a detailed argument against the thesis that the Yamnaya culture was basically pastoral. In his introduction he suggests (p. 59) that “researchers have effectively been in thrall to a pervasive image—that of mounted nomads and volatile Pontic tribes. This image is so powerfully documented historically that it is hard for prehistorians to think beyond it. Thus researchers with an interest in the earlier periods, during which the steppe expanses were first conquered, write prehistories populated by warlike, horse-riding nomadic pastoralists, driving their flocks from place to place and terrorizing their neighbours.” After reviewing the evidence Rassamakin concludes that (p. 154) “the economic system of the Yamnaya tribes should not be described as nomadic, and even a semi-nomadic form of economy can only be proposed with reservations.”
- 64 Vinogradov and Epimakhov 2000, pp. 240–41, note that many “Trans-Ural” settlements likely to have been occupied during the Sargary Culture (terminating in the eighth century BC) have been discovered by field reconnaissance, but that with very few exceptions they have not been excavated.
- 65 Bashilov and Yablonsky 1995, p. xi, generalize that even in the second millennium BC hunting and fishing were more important in the steppe villages than was either agriculture or stock-raising.
- 66 Anthony 1986, pp. 297–98.
- 67 See Khazanov 1984, pp. 92–93: “It would appear that in the Bronze Age and even in the Eneolithic (Chalcolithic) Age the inhabitants of the steppes were already opening up river valleys and penetrating quite deep into the steppe. Between the Urals and Volga burial grounds between 15 and 90 kilometres away from river valleys have been excavated, and in these grounds not only men were buried but also women and children.”
- 68 Charlese et al. 1998.
- 69 For a description of ancient nomadic societies see Kussmaul 1969; on the “migratory cycle” of twentieth-century Kazakh and Kirghiz nomads see Barfield 1993, pp. 140–45.
- 70 If they have been correctly dated, the recent discoveries at Charchen, in the Tarim Basin, would support a date *ca.* 1000 BC as a *terminus ante quem* for the beginnings of the

- intensive horseback riding that presumably accompanied a fully nomadic lifestyle. But the dates are disputed (see Chapter 4, note 59).
- 71 Andronovo is a village east of the Urals, in southern Siberia, where rich graves dating to the second millennium BC were discovered in 1914.
- 72 Anthony 1986, p. 298: "The Yamna horizon reflected a major economic change in the steppes, a reorientation towards the active and efficient exploitation of steppe resources. This trend began earliest in the Dnieper-Don region with the domestication of the horse and the evolution of the Sredni Stog culture." In recapitulating the argument Anthony and Brown 2000 stipulates that the steppe pastoralism of the later fourth millennium depended on (a) economically profitable grazing animals, (b) horseback riding, and (c) wheeled vehicles, usually ox-drawn.
- 73 Bakker *et al.* 1999 find evidence for wheeled vehicles in Syria and Mesopotamia *ca.* 3500 BC, and very soon thereafter at sites as far away as southern Poland and northern Germany. On the Pontic steppe the earliest evidence is "not older yet than c. 3000 cal BC" (p. 789). We may assume, however, that an invention popular enough to have been transmitted from Mesopotamia to northern Germany will not for long have been ignored on the Pontic steppe.
- 74 The vehicle burials in the steppes are presented in Häusler 1981. Some of the thirty burials are of the late Pit-Grave type and some of the Catacomb-Grave type (both types are combined by Häusler in what he prefers to call the "Ochre-Grave Culture"). See also Piggott 1983, pp. 55–60 on these burials. For the grand total see Jones-Bley 2000, p. 135: "About 250 wheeled vehicles consisting of wagons, carts, and chariots have been found in steppe graves." Of these, more than a hundred came from *kurgans* in the vicinity of the Kuban river. See Anthony 1998, p. 104.
- 75 According to Anthony 1986, p. 297, "the earliest evidence for wheeled vehicles reported in this region is two wheels buried in the central pit beneath an early Yamna tumulus grave (Kurgan 1, Burial 57) at Bal'ki on the lower Dnieper, C¹⁴ dated to 2420±120 b.c. (Ki-606) or about 3100 B.C."
- 76 Using uncalibrated dates, Piggott put most of the pertinent steppe burials fairly late: "[T]he cumulative evidence suggests that the Pit-Grave vehicle burials belong to a late phase of the culture, contemporary with the Catacomb Graves at the end of the third millennium bc" (Piggott 1983, p. 56). Sherratt 1997, pp. 245, suggests a date *ca.* 3000 BC for the wooden wheels (*ca.* 75 cm in diameter) found in a woman's grave at Plachidol, in northeastern Bulgaria, and first reported in 1984. The Plachidol burial is one of several hundred tumulus graves distributed over eastern Europe and especially Hungary, and very similar to those of the Yamnaya type. See Sherratt 1997a, p. 244: "All these tumuli are outliers—in areas which are themselves steppe enclaves—of the great mass of Pit-Grave tumuli on the Pontic steppes."
- 77 Piggott 1983, pp. 156–58, lucidly presented the evidence for wagons with a pivoting front axle, and concluded that the earliest certain evidence comes from the sixth century BC, at Hohmichele, in southwestern Germany. The direction of neolithic and Bronze Age wagons was apparently reversed by detaching the yoke pole from one axle and attaching it to the other.
- 78 Häusler 1994, p. 226.
- 79 For instances of paired bovids from third millennium BC see Piggott 1983, pp. 47–48.
- 80 Häusler 1994, p. 231. His reference is to the Sintashta burial.
- 81 Sherratt 1997, pp. 200–2.
- 82 Lichardus and Lichardus-Itten 1998, p. 343.
- 83 Anthony 1986, p. 297, notes that above and east of the Caspian Soviet archaeologists found "a type of polished stone mace-head that has been called a 'horse-head scepter' but in fact lacks any zoomorphic features whatsoever."
- 84 Lichardus and Lichardus-Itten 1998, pp. 343–45.

3

Speed

- 1 See Gimbutas 1997, p. 58, Fig. 9
- 2 Lichardus and Lichardus-Itten 1998, Abb. 1.2, 1.5 and 1.6.
- 3 Lichardus and Lichardus-Itten 1998, Abb. 2, 6.
- 4 See Epstein 1985, Fig. 10 for a terracotta figurine (from chalcolithic Hazor) of an ass laden with two huge panniers.
- 5 Of the seals and sealings known twenty years ago Littauer and Crouwel 1979, p. 46, say that “all show equids of some kind, but specific identification is impossible.” Moorey 1970, pp. 45–46, listed the ten representations known to him and suggested that although in most cases no details are visible, in the two instances in which some details are present the equid seemed to be an onager.
- 6 Owen 1991, p. 260–62. In his note 23 Owen reports that when he showed Roger Moorey a photograph of the sealing, Moorey cautiously agreed that the equid was a horse.
- 7 Owen 1991, p. 263.
- 8 Littauer and Crouwel 1979, p. 35. In absolute dates, the Kish sealing probably dates between 2400 and 2300 BC. This is No. 1 in Moorey’s listing (Moorey 1970, p. 45).
- 9 Littauer and Crouwel 1979, p. 46; see also their pp. 65–68 for an excellent summary of the figures of riders dating from the early second millennium.
- 10 Badre 1980, p. 155. Except for the pubic triangle, on which considerable care was lavished, the features of these women or goddesses are quite indistinct.
- 11 See Badre 1980, pp. 63, 99, and 116–17 for the “cavaliers” from, respectively, the Orontes region, the Euphrates region, and the Mediterranean litoral. Note also the “figurines de provenance inconnue,” pictured on Plate LXVII, and especially nos. 73, 74, 75, 76, 77, and 79 on this plate: in each the rider stands on the withers of the animal, arms around its neck. On no. 80, the rider sits side-saddle, or as Badre describes it, “perpendiculaire au corps de l’animal.” These “figurines de provenance inconnue,” most of which are of course unpublished, appear in Badre’s catalogue on pp. 405–6.
- 12 At p. 63 Badre describes Orontes figurine 273: “Le corps du ‘cavalier’ se confond avec le corps de l’animal, et ses bras en resserrent le cou. Le visage est en bec d’oiseau avec nez pincé et des yeux en pastilles perforées.”
- 13 Moorey 2000.
- 14 Moorey 2000, p. 482: “It was not until the Iron Age, in the second quarter of the first millennium B.C., with the appearance of terracotta horsemen in numbers yet to be properly assessed, but by any count unprecedented, that the first pervasive image of a man engaged in a routine daily activity finally emerged in the terracotta repertory.” Because these so-called “Persian” riders far outnumber those from Bronze Age Syria and Mesopotamia, scholars in the early twentieth century had assumed that the tradition began with the Persians.
- 15 Moorey 2000, p. 481.
- 16 For the Selenkahiye figurines (nos. SLK 200 and 202 in her catalogue) see Badre 1980, p. 99. In note 2 on p. 99 Badre cites M. van Loon’s observation that “no horse figurines have thus far been found deeper than the level immediately under the surface, and this fact agrees with textual evidence that the horse was introduced in the Near East in the UR III period at the earliest.”
- 17 Moorey 1970, p. 49.
- 18 Holland 1994.
- 19 Littauer and Crouwel 1996b, p. 937.
- 20 Hauser 1998, pp. 63–64.
- 21 The equid pictured in Hauser 1998, Plate VIII looks very much like a horse. For the halters, see Hauser’s Plates IX and X. See also Ivanov 1998, pp. 145–46.
- 22 Moorey 1970.

23 Moorey 1970, p. 40.

24 As described by Moorey 1970, p. 39, "The rider sits astride in the centre of the animal's back with his legs drawn right up, the knees passing under the wide girth. The left arm, slightly bent at the elbow, holds the reins which pass through a ring in the horse's nose. The right hand grasps the top of the girth." Cf. Littauer and Crouwel 1979, p. 67: "In several cases the animal on the plaques wears a wide girth that seems to be of webbing. This may have been for the rider to hold onto in case of necessity, but we sometimes see him wedging his knees under it, which might account for the often almost horizontal position of the thigh and the lower leg drawn sharply back."

25 Moorey 1970, p. 48.

26 Owen 1991, p. 262.

27 Postgate 1986, p. 194.

28 Šulgi A, lines 17–18, in Klein 1981. Here the term for "horse" is ANŠE.KUR.RA, literally "ass from the mountains." Earlier editors and translators of this "king of the road" hymn interpreted lines 71–76 as possibly referring to Šulgi's riding or driving of a horse, but that is not supported by Klein's reading. The burden of the hymn is Šulgi's vaunting of his own speed as a runner, so great that in one and the same day he celebrated the *ešeš* festival in both Nippur and Ur, cities 15 *danna* apart (approximately a hundred miles). Although the date-formula for Šulgi's seventh year speaks only of a one-way run, "when the king marched from Ur to Nippur," the hymn, probably written soon after Šulgi's death, presents him as making a round-trip run—from Nippur to Ur and back to Nippur—in one day. See Klein 1981, pp. 180–81.

29 For a detailed description of the saddle types, and photographs, see Wissler 1916, pp. 7–36. Although the advent of the horse and saddle in Plains Indians culture must have occurred a hundred years earlier, the earliest surviving descriptions date from the middle of the eighteenth century.

30 The best treatment of the horse in Plains Indians warfare is "The Horse in War," pp. 171–215 in Ewers 1955. The two important displays of courage for a Blackfoot were the "horse raid" and the "scalp raid," although in the first—the object being simply to steal horses—violence was not expected. The preparation and equipment required for each of the two kinds of raids differed considerably. On a scalp raid each brave took with him at least two horses, traveling for days on an ordinary, saddled horse and keeping his best and specially trained horse, his "buffalo runner," for the raid itself.

31 Roe 1955, p. 230: "The general Indian practice of riding bareback in battle, said by some tribes to be because a saddle impeded the 'hang over' on the horses neck, reveals pretty clearly what cavalry tactics meant in their minds." See also Roe p. 263, for a citation from the journal kept by François Antoine Larocque in 1805. After discussing the various kinds of saddles he saw in use among Native Americans in the plains Larocque said, "They are excellent riders, being trained to it from their infancy. In war or hunting if they mean to exert their horses to the utmost they ride without a saddle. In their wheelings and evolutions they often are not seen, having only a leg on the horse's back and clasping the horse with their arms around his neck, on the side opposite to where the enemy is" (pp. 64–66 in Larocque, "Journal" [ed. by Lawrence J. Burpee, *Publications of the Canadian Archives*, no. 3, Ottawa, 1910]).

32 Goodrich 1984, p. 289, notes that an ancient Chinese lexicographer defines *an*—the Chinese word for "saddle"—as "a means whereby to cover a horse and so gain one's ease." Goodrich goes on to say (p. 292) that "there can be little doubt that *an* 'ease' represents the basic etymon here.... Anyone with even slight bareback riding experience will agree that the rider's ease is enormously enhanced by a saddle, or indeed by any sort of pad or blanket such as the horsehair pads used by many youthful riders informally today. It is no doubt owing to the rider's comfort and convenience that the term came to be used for the saddle or shabrack" (p. 292).

- 33 Moorey 1970, p. 41. No other means of controlling ridden horses is pictorially attested during the first half of the second millennium. See Littauer and Crouwel 1979, p. 67: "Where the manner of control is explicit, as on several plaques, the Sinai graffiti, the Kültepe sealing and a cylinder seal of the IsinLarsa period, it is consistently by the old nose-ring-and-line, which had also been used for draught."
- 34 Downs 1961, p. 1195.
- 35 Clutton-Brock 1992, p. 66; Littauer and Crouwel 1996b, p. 936.
- 36 Azzaroli 1985, p. 27.
- 37 Moorey 1970, p. 48.
- 38 Potratz 1966, pp. 77–78: like saddles and, later, stirrups, "waren es auch bei der Trensenzüaumung sicher erst die Kautelen von pferdefremden Individuen, die nach einem narrensicheren Instrumentarium zur Rossebändigung verlangten."
- 39 Littauer and Crouwel 1996b, pp. 936–37.
- 40 Littauer and Crouwel 1979, p. 65 and fig. 38.
- 41 Drews 2001b, p. 252.
- 42 Littauer and Crouwel 1979, p. 66.
- 43 My own understanding is that Hittite was an Indo-Hittite rather than an Indo-European language, that over the course of the third millennium BC Hittite had evolved from Proto-Anatolian at Kanesh, and that Proto-Anatolian had in turn evolved—again in central Anatolia—from Proto-Indo-Hittite during the fifth and fourth millennia (Drews 2001b, pp. 264–66).
- 44 Moorey 2000, p. 472. Falk 1994, p. 92, puts the terracottas "um die Mitte des 2. Jahrtausends" and also notes (p. 100) that although riding is important in the younger Vedic texts, the Rig Veda barely mentions it.
- 45 Shaughnessy 1988; see also Dewall 1964, Goodrich 1984, pp. 279–80, and Bökönyi 1994, p. 120: "Hauspferde, die aller Wahrscheinlichkeit nach aus einem mittelasiatischen Domestikationszentrum gekommen sind, tauchten in China in der Yin-Periode (Mitte des 2. Jahrtausends v.Chr.) auf, als der Wagen dort schon seit langem bekannt war. Der von Pferde gezogene Streitwagen wurde dort seit dem 14–13. Jahrhundert v.Chr. benutzt." I thank Victor Mair for sending me galley proofs of his forthcoming article (Mair 2003), "The Horse in Late Prehistoric China." According to Mair, an expedition to "the horse country" is mentioned in the very earliest surviving written records from China: the Shell and Bone Inscriptions from the first two decades of the twelfth century BC.
- 46 Goodrich 1984, p. 280, notes that in China riding "appears to have been a relatively late development. While some have argued for riding in Western Chou or Ch' un-ch' iu times, it appears more likely to have been introduced into North China from barbarian neighbors in or about the fourth century B.C." See also Mair 2003.
- 47 The earliest horse bones in Ireland—found at Newgrange in County Meath—date from ca. 2000 BC. See Osgood 1998, p. 42.
- 48 Renfrew 1998, p. 280, noting an engraving on a pot from Sopron in Hungary, and a bronze model from Strettweg in Austria, neither earlier than Halstatt C. See also Renfrew's summary on p. 270: "Unless I am mistaken, we find no depictions of horses in Europe, following the notable art of the Upper Paleolithic, until the time of the Shaft Graves of Mycenae." Possibly earlier than the Sopron and Strettweg artifacts are rock carvings at Tegneby, in southern Sweden, which depict eight riding warriors. The rectangular shields carried by the riders suggests a date in the Early Iron Age, which in Scandinavia would be after ca. 700 BC. On the Tegneby riders see Osgood 1998, p. 40 and Fig. 17.
- 49 Bibikova 1969, p. 170.
- 50 Bökönyi 1994, pp. 116–17.
- 51 Dietz 1998, p. 7, differentiates between riding and "sitting on a horse," and concludes that although the use of horses as pack animals began in the third millennium BC, "ist das Reiten—abgesehen von vereinzeltten Darstellungen auf dem Pferd sitzender Personen—erst

- ab dem 1. Jt.v.Chr. überliefert.” Her catalog of bits commences with the *Spätbronzezeit*, which on the steppe, as her chronological chart at p. 24 indicates, began *ca.* 1000 BC.
- 52 See, for example, Kuzmina 1994, Fig. 21. Smirnov 1961 interpreted the organic cheekpieces from the Andronovo and Timber Grave cultures as evidence of riders, because when he was writing there was not yet evidence for paired draft in these areas. The chariot burials discovered in the 1970s at Sintashta and Krivoe Ozero radically changed the picture.
- 53 Gimbutas 1980, Fig. 3, suggested that a rock carving of a horse and rider, found at Kamennaja Mogila, north of the Crimea and near Melitopol, was “presumed to be of Mikhajlovka I period, second half of the fourth millennium B.C.” For the same carving Hančar had presumed a date in the Late Bronze Age; see the reference at Hančar 1956, p. 114, to “die jüngsten, wahrscheinlich spätbronzezeitlichen Petroglyphen auf der Kamennaja Mogila unfern von Melitopol realistische Pferdedarstellungen.” See also Häusler 1994, Fig. 17, and p. 242: “Der Versuch von M.Gimbutas, die stilisierte Darstellung eines Reiters (Abb. 17) von der Kamennaja Mogila dem Neolithikum zuzuweisen, kann nur als rein willkürlich bezeichnet werden—der Felsbilderkomplex der Kamennaja Mogila ist bis in die Eisenzeit hinein immer wieder von Menschen aufgesucht und durch neue Kompositionen bereichert worden.” Häusler cites G.Gladilin, “Die Felsbilder der Kamennaja Mogila in der Ukraine,” *Jahrb. prähist. und ethn. Kunst* 22 (1966/69), pp. 82–92, which article I have not seen.
- 54 Barclay 1982, p. 246: “The first direct evidence of riding in the Eurasia steppe does not appear until the second millennium B.C. in rock drawings in the Minussinsk Basin associated with the Andronovo culture (1700–1300 B.C.). Here a variety of animals and equestrian figures are portrayed. If we turn to the Anatolian and Mesopotamian regions we encounter direct evidence of horse riding that is older than the Andronovo material.”
- 55 Bokovenko 1995d, pp. 299 and 308–9; for two petroglyphs of riders (and another of a man holding the reins of two saddled horses) see his Fig. 23 in that article.
- 56 Hančar 1956, pp. 553–54.
- 57 Bokovenko 2000, p. 304: “It was only at the beginning of the first millennium BC—in connection with significant progress in horsebreeding and the development of a more reliable type of bronze bridle—that for the first time an early Scythian-type nomadic society depicted a horse rider in the form of a centaur.” For the Minusinsk petroglyph with such a figure see Bokovenko 2000, Fig. 6, image 4.
- 58 I am most grateful for the answers I received. Jeannine Davis-Kimball, in an email of 25 October 2001: “Horse and rider? Off the top of my head—there is a petroglyph at Tamgaly in southern Kazakhstan, dated to the Late Bronze Age, as near as I can tell. This might be very Early Iron Age, but let’s say from 1000–800 BC.” Andrzej Rozwadowski (for whose publication on central Asian petroglyphs see Rozwadowski 2001), in an e-mail of 19 October 2001, agreed with the date but cautioned, “The image of the horse from the Tamgaly Valley is dated to the Bronze Age (II mill. BC). The problem with this image is that the human figure on the horse seems to be added later. Generally speaking the first horse riding petroglyphs in Eurasia appear in the Iron Age (first centuries of the 1 mill. BC).” Marsha Levine (e-mail 11 October, 2001) said much the same: “I don’t really have any knowledge of steppe representations of horsemen earlier than the Early Iron Age material of the 1st mill. BC.”
- 59 Hančar 1956, pp. 130–32, with Tafel V.
- 60 Maringer 1981, pp. 179 and 181. Maringer suggested a “Late Bronze-Early Iron Age” date for the Koban cemetery.
- 61 For a similar figurine from south Russia, possibly dating *ca.* 1000 BC, see Potratz 1966, pp. 52–53, and Fig. 32b.
- 62 Text 76, lines 20–25, in J.R.Kupper, editor and translator, *Correspondance de Bahdi-Lim* (Paris: 1954, *Archives royales de mari* vol. VI). In the eighty letters in Kupper’s volume this is the only reference to riding. In fact, it is the only reference to horseback riding thus far discovered in the thousands of tablets unearthed at Mari, and has aptly been described as “a

- unique and fascinating document for the history of horse-riding in Mesopotamia" (Moorey 1970, p. 48).
- 63 Littauer and Crouwel 1979, p. 68.
- 64 For details see Littauer and Crouwel 1979, pp. 50–52 and 62–64; Moorey 1986; Drews 1988, pp. 93–106.
- 65 Littauer and Crouwel 1979, pp. 60–61.
- 66 See Drews 1993, pp. 104–6, for the beginnings of chariot warfare, and pp. 113–29 for use of the chariot in battle. Littauer and Crouwel, from whom I have learned so much about chariot construction and horse harnessing, are less helpful on chariot warfare. Despite the Linear B evidence for the manufacture of bows and the distribution of thousands of arrows, and the finds of bronze arrowheads in the "Armoury" at Knossos, they hold (recently, Littauer and Crouwel 1996a) that in Mycenaean Greece and perhaps among the Hittites chariots were important only as taxis for infantrymen, each chariot shuttling a lone infantryman on and off the field. For evidence for the bow in Mycenaean warfare see Reboreda Morillo 1996, pp. 10–14.
- 67 Petrovka lies in northeastern Kazakhstan, almost four hundred miles east of Sintashta. The Sintashta-Petrovka seems to have been a very early, and northerly provincial, phase of the Andronovo culture (see Sherratt 1997, p. 222).
- 68 Gening 1979; Anthony and Vinogradov 1995; Jones-Bley 2000, pp. 135–40.
- 69 Anthony and Vinogradov 1995, p. 38.
- 70 Anthony and Vinogradov 1995, p. 38.
- 71 Jones-Bley 2000, p. 136.
- 72 Anthony and Vinogradov 1995, p. 38.
- 73 Piggott 1983, pp. 99–101, and Fig. 55 for map of find-sites. For argument that the Mycenaean objects were not cheekpieces see Littauer and Crouwel 1973. Crouwel 1981, pp. 105–6, granted the possibility that the objects may have been cheekpieces, although still reluctant to identify them as such. Hüttel 1981, pp. 46–47, studied closely the objections and found them unconvincing: "Im Gegensatz also zu Crouwel und Littauer stellen wir fest, dass die Übereinstimmungen wesentlicher sind als die Abweichungen, mithin eine innere Verbindung zwischen den Stücken unbedingt anzunehmen ist." Today, I believe, the consensus is that the Mycenaean objects were indeed cheekpieces. For a detailed look at all the parallels between the Shaft Graves of Mycenae and the Eurasian steppe see Penner 1998.
- 74 In her discussion of the origins of cheekpieces Kuzmina 2000, p. 121, reports that "early Sintashta type bone cheekpieces were found in the Zardcha Halifa grave near Samarkand.... These date to beginning the second millennium BC according to the C14 chronology." If this report is correct, the spread of the disk cheekpieces was enormous: Samarkand lies a thousand miles south of Sintashta, and almost three thousand miles southeast of the Hungarian plain.
- 75 Drews 1988, pp. 93–94 and Fig. 6; as noted above, discoveries since 1988 have pushed the dates of *karum* II upward (Drews 2001b, p. 252).
- 76 See Sherratt 1997b, p. 222: "It seems likely that the light vehicle we recognise as the chariot had its critical development in the steppe zone, in association with the development of the bridle and bit (and perhaps also a yoke specifically adapted to equine needs by the development of yoke-saddles)." See also Kuzmina 2000, p. 120.
- 77 Anthony and Vinogradov 1995; Littauer and Crouwel 1996b base their case for Near Eastern precedence largely on the Tell es-Sweyhat figurine, which dates *ca.* 2300 BC and which they argue was a chariot horse. Raulwing 2000 is mostly an argument that the PIE speakers had no chariot. The latter should not be a controversial point, since the first chariots post-dated by at least five hundred years the speaking of Proto-Indo-European (PIE can hardly be dated later than *ca.* 2500 BC, and should probably be dated as early as 3000 BC).
- 78 Moorey 2000, p. 472.

- 79 I thank Jack Sasson for calling my attention to this text published by Eidem 1991. In the tablet, a letter to King Mutiya, an ally whose name is Shepallu reports that on the preceding day, while riding a horse at the head of sixty men who were escorting a flock (of sheep?) through enemy-held land, he encountered the enemy and captured fifty prisoners. The letter dates from about a generation after the death of Hammurabi.
- 80 For the seal, sealing and texts see Littauer and Crouwel 1979, pp. 96–97, and especially footnote 92. Erich Neu is persuasive that the Hittite king has been mistakenly translated as “riding” in the palace ritual, and must rather be pictured as riding in a chariot (Neu 1998).
- 81 Littauer and Crouwel 1979, p. 96.
- 82 See also Schulman 1957, Fig. 1. Schulman’s date for this relief, now in the Royal Scottish Museum in Edinburgh, is late Eighteenth Dynasty.
- 83 Littauer and Crouwel 1979, p. 96. On the same page see their note 94 for a dozen instances of riders (most of them single riders) in Egyptian reliefs of the New Kingdom. Most of these are found in Ramesses the Great’s copious reliefs of the Battle of Kadesh.
- 84 Schulman 1957, pp. 268–69, suggested that the “Edgerton Ostrakon” dated to the Nineteenth or Twentieth Dynasty; this ostrakon (Schulman 1957, Fig. 7) shows a nearly naked rider seated far back on his mount.
- 85 Hermes 1936, pp. 379 ff.; Anderson 1961, pp. 46–47; Littauer and Crouwel 1979, p. 89.
- 86 Wiesner 1968, p. 114: “Im kretisch-mykenischen Befund fehlen bisher alle Reiterdarstellungen bis in das 13. Jahrhundert.”
- 87 Although found in 1939, the figurine was published in Hood 1953. See Greenhalgh 1973, Fig. 29, or Worley 1994, Fig. 2.1. The figurine is central to Worley’s argument (pp. 7–20) that the Mycenaeans employed mounted warriors.
- 88 For the fragments see Greenhalgh 1973, p. 45.
- 89 Wiesner 1968, p. 116. For the three kraters bearing a *Reiterbild* see Wiesner’s Abb. 20a (a krater found on Cyprus), 20b (from Moulana, on Crete) and 21a–b (from Ugarit).
- 90 Wiesner saw that this was the case for Europe, the Near East, India and even China. Like most other scholars, however, he supposed that on the Eurasian steppe men had been riding well (although not in battle) already in neolithic times. See Wiesner 1939, pp. 39–40.
- 91 For judicious comments on the earlier stages of the controversy see Khazanov 1984, p. 92.
- 92 Powell 1971, p. 5.
- 93 Renfrew 1998, p. 280.
- 94 Gimbutas’ theories continue to have their advocates. See Dergachev 2000, a huge article that concludes (p. 310), “Thus, it virtually transpires that Marija Gimbutas was right.”
- 95 Drews 1988, p. 76.
- 96 Hüttel 1981, p. 22; these cheekpieces, made from bone, are nos. 2 and 3 in Hüttel’s catalog.
- 97 Smirnov 1961 suggested only a date somewhere between 1500 and 1100 BC, on the basis of dateable parallels from central Europe; see Littauer 1969, p. 298. Hüttel 1981, pp. 26–27, dates the pair several centuries earlier, to a “Frühstufe der Balkengrabkultur.”
- 98 Hančar 1956, pp. 88–122, laid out the osteological evidence for the consumption of horse meat on the Pontic-Caspian steppe. In the Catacomb Culture of the late third and early second millennium many graves at which ritual meals were eaten, or offerings were made, or cuts of meat deposited, show that the horse continued to be important as a food animal in the Pontic-Caspian steppe. The same was true for the Timber Grave Culture in the second millennium. Settlements too produced plenty of evidence for the consumption of horsemear. In the Catacomb Culture settlement at Kobjakovo Gorodišče, in the Don delta, 12 percent of the ungulate bones recovered were horse bones (Hančar 1956, pp. 95–96).
- 99 By the late phase of the Timber Grave culture, at the end of the second and beginning of the first millennium, at most sites near the Black Sea horse bones account for about 5 percent of the ungulate bones. Pigs account for the same percentage, while cattle account for more than 25 percent and sheep for more than 60 percent. See Hančar 1956, p. 102.

- 100 Since J.B. Bury promoted the idea, many historians have believed that after the Battle of Adrianople in 378 cavalry dominated the battlefields. Careful review of the evidence shows that the decisive shift came much later. Contamine 1984 observes (p. 179) that “at the end of the seventh century the Frankish army was still essentially composed of foot soldiers,” and concludes that it was not until Charlemagne that cavalry played the main role. For an exhaustive argument and a similar conclusion see now Bachrach 2001.
- 101 On the decline of the *chevalier* in the “gunpowder revolution” see Keegan 1993, pp. 332–34. On the origins of the stirrup see Bivar 1955, Bachrach 1970, pp. 59–64, Littauer 1981, and Contamine 1984, pp. 179–84. Lynn White’s thesis that the stirrup was invented in the eighth century is not quite correct. Simple cord or leather straps, terminating in “big toe” loops, are known from first-century India, but these loops may have been more dangerous (if the rider were unhorsed) than helpful. Several observers have suggested that the “Skythian” riders on a gold torque found at Chertomlyk (on the lower Dnieper), and dating to the fourth century BC, have their feet inserted into primitive stirrups; but the supposed “stirrups” at Chertomlyk are more likely trouser-straps (for color illustration see Metropolitan Museum of Art 1975, Plate 19). Other representations indicate that Skythian riders—like riders in Europe and the Near East until the seventh or eighth century—used no stirrups. The essential innovation seems to have been the replacement of the organic loop with an iron “buckle.” Metal stirrups from the fourth century have been found in northern China, and from China the innovation worked its way westward, although not very rapidly.
- 102 On Hellenistic cavalry action see Tarn 1930, pp. 50–92. According to Polybios (10.49) when Antiochos III met Euthydemus of Bactria in battle in 208 BC, Antiochos had 2,000 and Euthydemus had 10,000 horsemen. In 301 BC, at Ipsus, almost 21,000 horsemen were engaged. It was here that Demetrios, commanding Antigonos’ horsemen, put his opponents to flight but pursued too far and lost the battle.
- 103 On Carrahae, Denison 1913, p. 85, remarked with some justification, “The history of war does not afford a more brilliant illustration of the great value of the cavalry service, nor any instance where so great a result was due solely to the unaided efforts of horsemen.”
- 104 Ammianus Marcellinus 31.12–13; Orosius 7.33.13–15. Orosius says that at the outset the Roman infantry was encircled by the Goths’ mounted archers and was devastated by clouds of arrows (*legiones peditum undique equitatu hostium cinctae ac primum nubibus sagittarum obrutae*), but neither Ammianus nor Orosius indicates that the Goths rode the legionaries down. Ammianus’ account seems to say that after the initial attack by the Gothic mounted archers, it was the Gothic infantry (*acies, agmina*) that bore the brunt of the battle.
- 105 On war in the Pontic-Caspian steppe see Herodotos 4. 64–65.
- 106 Excavations suggest that by the fifth century BC this “traditional” mode of fighting that Herodotos describes may have given way to more sophisticated and more organized warfare, with at least some of the Skythian warriors wearing scale-armor. See Rolle 1989, pp. 65–69, summarizing the finds of Ukrainian archaeologist E.V. Cernenko. See also Hančar 1973, pp. 20–21, for speculation about the evolution of Skythian tactics between the middle of the fifth century BC and the defeat of Ateas by Philip II in 339 BC.
- 107 Although much inferior to camels in this regard, the horse can work many hours without water. Spence 1993, pp. 36–37, tabulates the intervals between waterings of British and Australian cavalry units in the Palestine campaign of 1917.
- 108 Spence 1993, pp. 56–57. Literary sources inform us that the Athenians employed three hundred Skythian archers. Vos 1963 catalogued and analyzed more than four hundred Attic vase paintings of “Skythians,” who probably could have been seen in Athens between ca. 540 and 490 BC. In some of the paintings the Skythians are on horseback, but more often they operate their bows on foot. Because Skythian archers appear only in Attic vase painting, and have not been found on Corinthian or other wares, Vos quite reasonably concluded (p. 68) that only at Athens were Skythians employed. I am not persuaded, however, by Vos’s suggestion (p. 67) that Peisistratos hired the Skythians in order to give “the Athenian army

- an ascendancy over the armies of the neighbouring cities, as in Greece in this time the bow was not used in war.” For the most part the Peisistratid tyrants coexisted peacefully with neighboring cities, and in the unlikely event of a battle against the hoplites of another Greek city the Skythians could have contributed very little. It is more likely that Peisistratos hired Skythians because he believed that the mercenaries would be completely dependable supporters of his regime.
- 109 Spence 1993, pp. 2 (Sparta) and 9–17 (Athens).
- 110 What Potratz 1966, p. 226, says about the heavily armed and armored Assyrian horsemen applies just as much to the Archaic and fifth-century Greek horsemen: “Man spricht von diesen Reitern fälschlich als von Kavalleristen. Die Kavallerie war eine taktische Waffe, die als geschlossene Geschwader in den Kampf eingesetzt wurde und durch den Aufprall der formierten geballten Kader dem Fussvolk überlegen ist.”
- 111 See especially Keegan 1978, pp. 95–97.
- 112 Although she wrote “The Fall and Transformation of Old Europe: Recapitulation 1993,” for inclusion in her (posthumously published) book, *The Living Goddess*, Gimbutas decided to publish it instead in the anthology which at the time of her death was being planned by Dexter and Jones-Bley. It therefore appears in *The Kurgan Culture and the Indo-Europeanization of Europe*. See Gimbutas 1993, pp. 351–72.
- 113 Gimbutas 1993, p. 356.
- 114 Gimbutas 1993, p. 357.
- 115 Although in the early 1960s Gimbutas noted that the horse was much in evidence in the “Kurgan culture,” the beginnings of which she then dated to ca. 2400 BC, she thought that for the early Kurganites the horse was not a riding animal but “was used for milk and meat and as a sacrificial animal like sheep and cattle” (Gimbutas 1963, p. 834). By the Philadelphia conference in 1966, however, the Kurganites had been retrojected two millennia and at least the later Kurganites had become riders: “The Bell Beaker people of the second half of the third millennium B.C. were vagabondic horse riders and archers in much the same way as their uncles and cousins, the Corded people of northern Europe and Catacomb-grave people of the North Pontic region” (Gimbutas 1970, p. 184). On p. 191 in the same article Gimbutas concluded that “the increasing herds and population, the appearance of vehicles and fighting carts, and the use of horses for riding obviously were decisive factors in the expansion of the Kurgan warrior nobility.” According to Gimbutas 1974, p. 303, already in the middle of the fifth millennium BC one can detect in the Danubian lands the presence of Kurgan horsemen who had ridden in from the Pontic-Caspian steppe: “The horse, the spear, bow and arrow and the battle-axe are the symbols of a formidable power to which the free spirit of the civilized matriarchal world must have succumbed.”
- 116 Bökönyi 1978, p. 18.
- 117 Azzaroli 1985, p. 45.
- 118 Anthony and Brown 1991, p. 36.
- 119 Lichardus and Lichardus-Itten 1998, p. 337.
- 120 Lichardus and Lichardus-Itten 1998, pp. 347–48. Although nos. 3–5 in the authors’ Abb. 2 are unquestionably quadrupeds, two of the three bear as much resemblance to dogs as to horses.
- 121 Lichardus and Lichardus-Itten 1998, p. 348.
- 122 Lichardus and Lichardus-Itten 1998, p. 348.
- 123 Hančar 1956, pp. 130–32, 553, and Tafel V.
- 124 Some of the best illustrations can be found in Metropolitan Museum of Art 1975, an exhibition catalogue (*From the Lands of the Scythians: Ancient Treasures from the Museums of the U.S.S.R. 3000 B.C.—100 B.C.*) of the Skythian objects that in 1975 were lent by the Hermitage and three other Soviet museums to the Metropolitan Museum of Art in New York and the Los Angeles County Museum of Art.

- 125 Renfrew 1998, p. 270: "It will be argued...that since warriors on horseback are depicted with some regularity in the first millennium BC but are lacking from earlier depictions, while warriors in horse-drawn chariots are seen from the middle of the second millennium BC, warriors on horseback did not form part of a significant cognitive constellation during the second millennium."
- 126 Häusler 1982, pp. 23–24; Häusler 1984, pp. 650 ff. and Abb. 11, 12, 13 and 14. See also Kuzmina 1994, fig. 21.
- 127 Of the 254 Bronze Age bits catalogued in Hüttel 1981, 90 percent were found west of the Carpathians. For a catalogue of the Iron Age bits of the PonticCaspian steppe see Dietz 1998.
- 128 Hulsewé 1979, pp. 150–51.
- 129 Goodrich 1984, pp. 293–94.
- 130 The parallels had been noted before (see, for example, Mellink 1956, pp. 54–56) but Gimbutas 1963, pp. 822–23, and Gimbutas 1970, p. 168, gave them the emphasis they deserved.

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- 1 Cf. Moorey 2000, p. 482 (see above, Chapter 3, note 14).
- 2 Mayer 1995, p. 456.
- 3 For color illustration see Jettmar 1967, pl. 44. See also Littauer and Crouwel 1979, p. 135: "Moreover, two mounted enemy archers on a relief of Ashurnasirpal II...ride a more horsemanlike seat, and one of them is even able to employ the so-called 'Parthian shot' (i.e. shooting backward at his pursuers while in flight)."
- 4 Anderson 1961, p. 68.
- 5 Dalley 1985, p. 36–38.
- 6 Dalley 1985, p. 38, noting that Sargon allocated to his governor of Babylonia ten times as many cavalymen as chariots, comments that "these figures show that a revolution in equestrian tactics had taken place by 709 B.C. in the army of Assyria."
- 7 In Orthmann 1971 these are shown at Plates 55b (Zincirli A/3) and 66e (Zincirli K/4). For both reliefs Orthmann's notional date was "Periode: Sph. (I–) II." Orthmann's *Späthethitische I* is the period before 950 BC, and so before any Assyrian influence is detectible; *Späthethitische II* coincides with the period of Assyrian encroachment and conquest, ca. 950–700 BC, and *Späthethitische III* is the period of Assyrian domination. Thus a date in the ninth century for these two orthostats is probable.
- 8 For the relief see Meyer 1965, Plate 102, and for the description p. 40: "Reiter mit Rundschild. Basaltrelief aus Tell Halaf. Um 900 v.u.Z. Höhe: 60 cm. VA 8851."
- 9 Prayon 1987, Plate 35d. In the catalogue (Catalogue Number 183) Prayon describes the relief as follows: "Kalkstein-Altärchen mit anthropomorpher Stele und Reliefdarstellungen: Reiter und Tiere. Periode FPIII/MPI."
- 10 For the new dates that Mary Voigt is proposing for the destruction of level YHSS 6A at Gordion see note 55 of Chapter V.
- 11 Prayon 1987, Plate 26d=Catalogue Number 111.
- 12 The "cavalier" figurines from Cyprus are especially informative. On these figurines see Moorey 2000, p. 473: "Cyprus is again the best region from which to view their emergence and development since terracottas are not only exceptionally common there in the Iron Age, but they are also relatively well dated and increasingly well published. The earliest solid, hand-made horsemen date to the tenth century B.C." The Cypriote figurines from the first quarter of the first millennium, however, are not explicitly military, and "it is not until the

- seventh century B.C. that the earliest riders equipped with shields and sidearms appear. At this time in Cyprus they are more often reported from tombs than from shrines. Their increased popularity has been linked to the first regular use of cavalry in war in Cyprus.”
- 13 Drews 1993, pp. 165–66.
 - 14 In his recent survey of the origins of horse riding in central Asia Nikolai Bokovenko came to the same conclusion: “It was only at the end of the Bronze Age that a sporadic development in the steppe cultures occurred in which horseback riding was mastered—and this was probably by shepherds” (Bokovenko 2000, p. 304).
 - 15 Zimmer 1994, pp. 34–35. The argument of Littauer and Crouwel 1996b, pp. 934–36, that the chariot was not invented north of the Caucasus, depends in large part on their assumption that by ca. 2000 BC men on the steppe had long been expert riders, and that “for warfare on the steppe, the mount would have been more suitable” than the chariot.
 - 16 Hüttel 1994. Neither Potratz nor Hüttel considered the arguments from military history, and both argued that the pictorial and textual evidence is misleading: because riding was less prestigious than driving, it was seldom mentioned or depicted.
 - 17 Hüttel 1994, p. 209: the *Verreiterung* of the steppe peoples did not begin with Kimmerians and Scythians, but was a long process, “der nach meiner Auffassung bereits im 17./16.Jh. mit der allmählichen Militarisierung des Reitens im mittleren Donaauraum beginnt. Dieser in der frühen Bronzezeit initiierte und möglicherweise von der Streitwagenbewegung stimulierte Prozess setzt sich in der späten Bronze- und frühen Eisenzeit wie in einer Kettenreaktion fort.”
 - 18 Hüttel 1994, p. 209: “Konfrontiert mit der Reitertaktik der Steppenvölker, lernten z.B. die Assyrer ihre Pferde nicht länger wie Esel zu reiten.”
 - 19 Pp. 187–94 in Hüttel 1981 are an appendix (“Altkleinasiatische Knochenund Geweihknebel”) devoted to the dozen organic cheekpieces found in Anatolia. For illustrations see Tafel 42 of that publication. In his 1994 article Hüttel points out (p. 209) that the Anatolian *Stangenknebel* postdate those from the Danube, but does not discuss their use.
 - 20 On the absence of offensive infantry formations in the Late Bronze Age and on their presence in the Early Iron Age see Drews 1993, pp. 135–42, 161–63, and 224–25; and Dawson 2001, pp. 153–57.
 - 21 Osgood 1998, p. 40 and Fig. 17.
 - 22 Anderson 1961, p. 13.
 - 23 *Iliad* 10.465. On this passage see Greenhalgh 1973, p. 56: “this narrative passage is remarkable for its obscurity, which is caused by the extraordinarily un-Homeric lack of details of the operation, and by the use of expressions for ‘mounting’ which are elsewhere used for chariots.” Riding is mentioned twice in similes: *Iliad* 5.371 and 15.674. On Homer’s silence about riding see Wiesner 1968, pp. 110–12 (even an ancient scholiast—on *Iliad* 15.679—noted that Homeric heroes do not ride horses).
 - 24 Barber 1999, p. 43, and Mallory and Mair 2000, p. 215. For a spectacular color plate of the mummy see Plate 1 in Barber 1999. The date of this grave, labeled as 1000 BC, is still under discussion (see below).
 - 25 On the archaeological debate initiated by Gryazanov see Jettmar 1966. Kussmaul 1969, pp. 35–36, summing up what archaeologists had learned in the preceding twenty years, concluded that throughout the Bronze Age all parts of the steppe “durchweg feste Siedlungen aufwiesen, also Bauernland waren.” This was still the pattern at the end of the second millennium: “Noch um 1000 v. Chr. haben sie—soweit die archäologischen Quellen dies erkennen lassen—solche steppenbäuerlichen Dörfer im ganzen anbaufähigen Bereich bewohnt.” It was an unusual kind of agriculture, not like farming in wetter climates, but these were farmers nonetheless, who lived in permanent settlements and possessed the usual array of agricultural implements. Shortly after 1000 BC *Reiternomaden* began to appear on the Pontic steppe, in Kazakhstan, and on the borders of Iran and China. Within a few centuries the villages were gone. Anthony 1986, p. 298, arguing that full nomadism began at

- the outset of the Yamnaya period, notes that most other specialists “would delay the evolution of fully nomadic steppe societies until 1000 b.c. (about 1100 BC).” For a survey of Russian-language scholarship on the beginning of nomadism on the steppe see Bokovenko 1995a.
- 26 Khazanov 1984, pp. 94–95: “The preconditions of the transition to pastoral nomadism, the whole complex of which was on hand already in the middle of the second millennium B.C., remained unrealized for at least half a millennium. I can suggest only one explanation for this—climatic change and change in the economic and political situation of the region.” Although the steppe had been dry in the second millennium, it became dryer still toward 1000 BC. “It would appear that the dry climate was the final stimulus for pastoralists to abandon agriculture once and for all and become fully nomadic.”
- 27 Jettmar 1966, p. 6, made the very important point that a new style of warfare—mounted combat—appeared in conjunction with nomadism: “Die entscheidende Übergang muss folglich zwischen dem zehnten und achten Jahrhundert v. Chr. liegen. Es müssen hier Vollnomadismus und Reiterkriegerum gleichzeitig entstanden sein—sie bilden nur zwei Aspekte des gleichen Phänomens.” See also Barfield 1993, pp. 133–34: “The world of the steppe nomad came into existence as a result of a series of changes in economy, horse technology, and weaponry. Taking advantage of mobility provided by carts pulled by horses or oxen, some groups became more nomadic. Leaving the protection of river valleys, they began to migrate across the grasslands with large herds of animals.” Second-millennium representations “show no evidence of cavalry; the few horse riders shown are mounted clumsily on the rump as if they were riding a donkey. Around 900 B.C. the nascent steppe nomads made two dramatic innovations. The first was a form of horse riding that gave the rider more control over his animal, including a saddle and an improved system of bits and bridling. The second was mounted archery. Using the compound bow, mounted archers now formed a cavalry that was both swift and deadly, able to attack an enemy at a distance or even while retreating (the famous ‘Parthian shot’). The steppe nomads now combined a mobile economy with a powerful mobile military. This new culture soon displaced the semi-nomadic, riverine agricultural settlements and even began to threaten neighboring sedentary civilizations.”
- 28 The fullest account in English of the Pazyryk excavations is Rudenko 1970.
- 29 For the 430 BC carbon date see Rudenko 1970, p. xxxvi; for various chronological schemes see Bokovenko 1995a, pp. 257–60. In a paper delivered recently at Cambridge, galley proofs of which he kindly sent me, James Mallory announced that C¹⁴ tests done at Queen’s University Belfast date the Pazyryk kurgans to the period 300–240 BC. See Mallory 2003.
- 30 For a good overview of the Arzhan Kurgan see Rolle 1989, pp. 40–43. In early summer of 2001 a smaller but possibly richer grave was uncovered at Arzhan, this one (provisionally called “Arzhan 2”) evidently dating to the fifth or fourth century. Because of the quantity of gold found in the larch-timbered chamber, Hermann Parzinger, of the German Archaeological Institute, and Russian colleagues Anatoli Nagler and Konstantin Cugunov have called the 2001 find the richest “Skythian” burial yet found east of the Urals. The cursory press reports I have seen make no mention of horses.
- 31 Bokovenko 1995b, p. 267.
- 32 Bokovenko 1995a, p. 260.
- 33 Bokovenko 1995c, p. 285.
- 34 Bokovenko 1995d, p. 305: “The abundance and diversity of horse harness items and the numerous petroglyphs illustrating the horse theme are evidence of the great role that horse breeding played in the Tagar society.”
- 35 See Hulswé 1979, pp. 150–52, for translation of Chapter 96B of the *Han-shu*, which claims that for a campaign against the Hsiung-nu in 72 BC the emperor Hsüan himself gathered a force of 150,000 horsemen.

- 36 Dalley 1985, p. 42. For a different interpretation of the text see Luckenbill 1927, vol. 2, no. 158.
- 37 Littauer and Crouwel 1979, p. 111.
- 38 On the campaigns of Ashurnasirpal II see Grayson 1982, pp. 253–54. For the tribute in horses that the kings of Nairi supplied to Ashurnasirpal see Luckenbill 1927, vol. I, no. 441: “horses, silver, gold, lead, copper and vessels of copper they brought to me as their tribute.” Ashurnasirpal’s predecessor, Tukulti-Ninurta II (890–884), had already collected horses in the same area: see Luckenbill no. 405: “horses, mules, before my officials [they brought]... for my own I took.” Tukulti-Ninurta made Ammi-ba’li swear to “furnish horses to my bodyguards.” Ashurnasirpal II also collected horses after marching into the lands of Gilzani and Hubushkia, south of Lake Urmia. See no. 441 “horses, silver, gold, lead, copper and vessels of copper they brought to me as their tribute.”
- 39 See Postgate 2000 on Assyrian campaigns into Zamua. For Ashurnasirpal’s relevant inscriptions see Luckenbill 1927, vol. I, nos. 452–58. Ashurnasirpal took his chariots and his cavalry on the campaign, but in many places his chariots could not go. At least one of Ashurnasirpal’s enemies, a king named Ameka, was evidently on horseback. “I took his horse from him. Ameka, to save his life, climbed up into Mount Sabua.” For the tribute see no. 457: “All the kings of the land of Zamua were affrighted before the fury of my arms and the terror of my dominion, and embraced my feet. Tribute and tax—silver, gold, lead, copper, vessels of copper, garments of brightly colored wool, horses, cattle, sheep, and wine I laid upon them (in greater measure) than before and used their forced laborers in the city of Calah.”
- 40 See Mayer 1995, p. 458 for the numbers. While Assyrian armies enrolled slightly more riders than chariots in the eighth century BC, in Urartu the riders outnumbered the chariots by margins of 20 to 1 and in one case even 100 to 1.
- 41 Hančar 1956, p. 181.
- 42 For the seal see Ghirshman 1954, p. 80 and Fig. 31; Jettmar 1967, Fig. 134; Jettmar 1994, Fig. 7. Jettmar 1994, p. 6 detects the same breeches on the barbarian riders displayed on the Ashurnasirpal relief: “Initially only a sort of riding breeches was used—as visible on a famous seal, found at Syalk (Fig. 7), and in one of the reliefs of Assurnasirpal II (883–859 BC).” See also Jettmar 1967, p. 212–13.
- 43 Ghirshman 1954, p. 88, dated the cemetery “not later than the ninth or eighth centuries B.C.” and explained that the date depends on evidence from Giyan, across the first mountain ridge from Siyalk: “Cemetery B at Siyalk marks the end of that city’s existence. At Giyan above the level containing analogous tombs, there was an imposing structure with door-hinges in the pure Assyrian style of the eighth century. This suggests that the partial destruction of these fortified towns was the work of the Assyrian army, and that it took place not later than the ninth or eighth centuries B.C., a period when the Assyrian Empire was engaged with all its forces against the rising strength of Iran.” Medvedskaya 1988, p. 2, argues against a ninth and for an eighth century date for the cemetery, as part of a larger argument that Hasanlu was destroyed by the Assyrians in 714 BC.
- 44 Ghirshman 1954, p. 94.
- 45 See Mortenson 1993, pp. 27 ff. for a lucid description of the geography of Luristan.
- 46 Mortenson 1993, p. 34.
- 47 De Waele 1982, pp. 8–9.
- 48 The first bronzes from this area appeared in bazaars in Kermanshah and Harsin in 1928. A great many more soon followed, and in 1931 a sample of what had surfaced was published in *Les Bronzes du Luristan* by André Godard, then Director of the Archaeological Service of Iran. In the 1930s and 1940s hundreds and possibly thousands more “Luristan bronzes” made their way, via the black market, into museums and private collections. Although some of the bronzes were manufactured in modern times, the great majority were discovered in western Iranian graves by clandestine diggers. Only a few excavations by professional

- archaeologists have been conducted in Luristan (for the exploration of Luristan see Mortenson 1993, pp. 63–74). The tell sites of Giyan and Siyalk, dug by Roman Ghirshman in the 1930s, lie in plains slightly to the east of Luristan. Between 1934 and 1938 the “Holmes Expedition to Luristan” excavated a few graves in Luristan proper, as did Sir Aurel Stein, but the results were disappointing (the graves dug by the professionals had all been looted). Only in the 1960s and the 1970s did archaeologists succeed in finding and excavating undisturbed burials, and in establishing a reliable sequence for the bronzes. On the chronology see Moorey 1971 and Vanden Berghe 1979, pp. 125–28. In 1963 the Danish Archaeological Luristan Expedition began working at Tepe Guran, forty miles south of Kermanshah. The person who did most to shape the field of Luristan studies was Belgian archaeologist Louis Vanden Berghe. See Curtis 1994 for an appreciation of Vanden Berghe’s work. Vanden Berghe spent fifteen seasons in excavations in western Luristan, excavating thirty cemetery sites. With Ghirshman he founded the periodical *Iranica Antiqua*, and in 1979 published his invaluable *Bibliographie analytique de l’archéologie de l’Iran Ancien* (see Vanden Berghe 1979). In that same year the Ayatollah Khomeini came to power, and excavations in Luristan and elsewhere in Iran were abruptly terminated.
- 49 Moorey 1974, p. 28, concluded that bronzes were “liberally deposited in the cemeteries of Luristan from about 2600 to 650 BC.” Achaemenid bronze and ironworking, so far as they are known, show little continuity from the Luristan tradition. “Sometime in the seventh century Luristan’s metal industry suffered a blow from which it never recovered. Its independence and originality were snuffed out together.”
- 50 For the bits that certainly or presumably came from Luristan see Potratz 1966, pp. 133–87. On pp. 133–34 Potratz aired two explanations why Luristan has produced so many bronze bits (more than any part of the ancient world with the possible exception of “Skythia,” which in Potratz’ nomenclature stands for an area approximately a hundred times the size of Luristan). The better suggestion was that Luristan was a center for the production of bronze artifacts. A less likely suggestion was that Luristan was a vast necropolis: the mountain valleys were a traditional burial ground, and Iranian tribes from far and near came to Luristan to bury their dead.
- 51 Porada 1964. For the carbon dates see Rehder 1991, pp. 13–14. See also Moorey 1991, p. 12: “In spite of marked advances in the last thirty years as a result of excavations in Luristan, the chronological range of any particular type of metal artefact in the repertory now taken to be distinctive of this region from the end of the second millennium BC until some time in the later seventh century B.C. is uncertain. As Muscarella’s recent summaries of the present situation have made clear, the metalwork of Iron III, during the eighth and seventh centuries BC is now best known. How much of this was under production in Iron II often remains obscure, whilst comparative typology rather than material from excavations still sustains many attributions to Iron I, before about 1000 B.C. Consequently, the first C-14 datings for the decorated iron swords are all the more significant. Much now remains to be done to see whether further determinations sustain this dating, to check whether the bimetallic objects do indeed begin in Iron I.”
- 52 According to Potratz 1966, p. 180, “die Zeitspanne von 900 bzw. 850 bis 600 v. Chr. würde also die Blüte der luristanischen Pferdegeschirrbronzen beinhalten.” Potratz was probably right in seeing the Assyrian kings as the principal support for the Luristan bronze industry. But because the inhabitants of the Luristan valleys specialized in metallurgy long before 900 BC, it would hardly be surprising if they also began producing bronze bits well before 900 BC and the revival of Assyria. That some Luristan bronzes date as late as 600 BC is possible, although some specialists believe that the latest date from ca. 650 BC.
- 53 Dalley 1985, p. 43.
- 54 Potratz 1966, p. 124.
- 55 See, for example, Trench 1970, p. 12: “The use of the riding-horse in war and in hunting had to await the development of a powerful charger and hunter, the work of many generations of

- selective breeding and, most important, of grainfeeding such as is only possible in fertile, civilized countries with grain to spare." Cf. Downs 1961, p. 1194.
- 56 Bökönyi 1968; cf. Clutton-Brock 1992, p. 101.
- 57 On the importance of saddles for the improvement in horsemanship after 1000 BC see Azzaroli 1985, p. 42, and Barfield 1993, pp. 133–34.
- 58 See Dixon and Southern 1992, p. 70: "The purpose of the saddle is to transfer the weight of the rider from the horse's spine to its flanks, and to provide the rider with a secure and comfortable seat. In order to fulfill these requirements, a rigid saddle is thought necessary, consisting of a wooden frame (tree) with padding." Until 1967 it was believed that in the Roman Empire the frame or treed saddle did not come into use until Late Antiquity, but discoveries of leather saddle covers at Valkenburg in the Netherlands and at Vindolanda in Britain have shown that Roman cavalrymen used a treed saddle as early as the first century. See Hyland 1990, pp. 130–34.
- 59 For a date, *ca.* 1000 BC, given on the display case for the mummy in question, see Barber 1999, pp. 43–45. Mallory and Mair 2000, p. 132, indicate a wide period of 1000–600 BC for the burials at Zaghunluq, and at p. 302 they suggest that "the mummies from... Zaghunluq date to *c.* 600 BC." At p. 336 Mallory and Mair note that although no carbon dates for Zaghunluq have yet been published, dates ranging from 1500 to 850 BC have been reported. Victor Mair has informed me (personal communication, 15 January 2002) that for the grave in question some specialists have urged a date as late as 600 BC on the basis of pottery typology.
- 60 Bokovenko 1995c, p. 289, credits the frame saddle to the "Scythian culture" of the Altai mountains: "The appearance of leather saddles with light wooden frames occurs during this period."
- 61 See Victor Mair's short summary of the development of pants, at Mair 1998b, p. 29.
- 62 Barber 1999, pp. 37–39 and Plate 1; Barber 2001, p. 5, suggests that pants may have been invented as early as 1200 BC.
- 63 For representations see Vos 1963, nos. 15–94.
- 64 See Clutton-Brock 1992, Fig. 7.10.
- 65 On the Nimrud relief see Sulimirski 1952, p. 452: "Il montre deux cavaliers ennemis fuyant au gallop. Ils sont coiffés de bonnets pointus, probablement en feutre, leur costume—pantalons larges et chaussures de cuir souple—rappelle celui que portent les Scythes du vase célèbre, découvert dans le tombeau (*kourgan*) de Koul-Oba en Crimée et remontant au ive siècle av. J.C. Il est du reste possible que ces deux soldats soient chaussés de bottes, comme le suppose Layard."
- 66 Until the advent of the stirrup, mounting a horse was not easy and most stables were therefore furnished with mounting platforms. In the field, mounting required some athletic ability, unless either the horse was trained to kneel or the rider had—"in the Persian manner"—an attendant who could "give him a leg up." See Xen *Peri Hippikes* 7; Anderson 1961, pp. 82–84.
- 67 Potratz 1966, pp. 63–64; Littauer and Crouwel 1979, p. 136; Mayer 1995, p. 457.
- 68 For the organic cheekpieces found in Europe and the steppe and dateable to central Europe's Early and Middle Bronze Age (ending *ca.* 1300 BC) see nos. 1–122 in Hüttel 1981.
- 69 An accurate count is in any case impossible since a great many bits—most of them bronze—remain in private collections that have never been published. The Pontic-Caspian bits that have been catalogued show an enormous proliferation at the beginning of the first millennium BC. From the period ending in the tenth century BC Hüttel 1981 catalogued only twenty-some cheekpieces from the steppe, all of them organic. In contrast, from the three centuries that followed (*ca.* 900–600 BC) Dietz 1998 catalogued 645 mouthpieces, cheekpieces or complete bits from the Pontic-Caspian steppe. A few organic cheekpieces continued to be used in the first millennium BC, but approximately 90 percent of the items in Dietz's catalog are metal, most of them bronze. Hundreds more metal bits from the Pontic-

Caspian steppe, many of them in iron, date from the “Skythian” period and remain to be published.

- 70 From all of what in this book is “Europe” (Eurasia west of the eastern arc of the Carpathians) and from the steppe as far east as the Urals Hüttel 1981 published 254 cheekpieces or bits from the period ending *ca.* 900 BC. Approximately 90 percent of these came from Europe, and 10 percent from the steppe. Of all 254, two thirds (169) were organic, and the great majority of these date to the period before 1200 BC. The 85 bronze specimens (all from Europe) in Hüttel’s catalog date from the twelfth, eleventh and especially the tenth century. Hüttel’s 230 Bronze Age bits from Europe are vastly outnumbered by the Iron Age bits. From Italy alone von Hase 1969 catalogued 279 specimens from the Early Iron Age. Werner 1988 catalogued another 400 from eastern Hungary, Yugoslavia, Romania and Bulgaria. One of the cheekpieces (no. 148) in Werner’s catalog was organic, a few were bronze, and the rest were iron. Most of the surviving iron bits are badly oxidized, and we may assume that many iron bits placed in European graves were completely oxidized and so lost to the archaeological record.
- 71 Hüttel 1981 presents the plate pieces (*Plattenknebel*) on pp. 24–35 and the disk pieces (*Scheibenknebel*) on pp. 35–65.
- 72 In the catalogue of Hüttel 1981 this Corcelettes bit is no. 165. Corcelettes is a lakeside community in the Grandson district of the Vaud Canton, Switzerland, and in the nineteenth century yielded several organic cheekpieces in addition to no. 165. At p. 122 Hüttel notes that when no. 165 first came to light (the find circumstances are unknown), antiquarians and scholars believed that it was a neolithic artifact. Parallels for the cheekpieces now indicate that the “Corcelettes” bit dates to the late second millennium BC, and Hüttel believes that it comes from an “urnenfelderzeitlichen Milieu.”
- 73 The organic bits used in central Europe since the middle of the second millennium BC had evidently controlled chariot horses. See Thrane 1963, p. 97: “At the moment it seems that the earliest horse bits make their appearance in Br D in south Germany—Switzerland and that chariot parts appear at the same time in the same area. It is important to emphasize the combination of horse bits and chariot pieces in the Swiss finds as this makes it reasonable to assume that the horse equipment belonged to chariot horses.”
- 74 In Hüttel 1981 the *Jungbronzezeit* and the *Spätbronzezeit* are for typological reasons both included in a single chronological division. To these periods Hüttel assigns 47 organic cheekpieces (nos. 123–69) and 85 bronze bits, mouthpieces or cheekpieces (nos. 170–254).
- 75 Bokovenko 2000, p. 304.
- 76 At two late Timber Grave sites near Penza, west of the middle Volga, 32 percent and 40 percent of the unarticulated bones recovered were horse bones, horses coming just behind cattle and far ahead of sheep and pigs as a source of meat. The sites in question date to the end of the second millennium or the beginning of the first. Only the finding of organic cheekpieces at the sites provides evidence that the horse was in this period also used for transportation, probably in paired draft. See Hančar 1956, p. 112: the *Psalienfunden* in these late Timber Grave sites “bezeugen jedenfalls, dass das Pferd nicht nur des Fleisches wegen, sonder auch für Transportzwecke gezogen wurde.”
- 77 J.K.Anderson informs me that a generation ago the manoeuvre was taught even to very young riders.
- 78 Because I have never tried this from a horse moving at a gait faster than a trot, I thank Marjolene Luttrell, with the Cheval Théâtre Inc., of Montreal, for persuading me that a practiced and athletic bareback rider can vault off the rear of a galloping horse.
- 79 Fifteen years ago I accepted the assumption without examining it (see Drews 1988, p. 76).
- 80 Potratz 1966, p. 77.
- 81 Hüttel 1994, p. 198, for example, argues that the horse is by nature easily controlled, even without a bit of any kind. “Pferde sind von ihrer Natur her eher gutartig. Um ein Pferd zu bändigen und zu zähmen benötigte man die Trense ebensowenig wie zum Reiten und (mit

- Einschränkungen) zum Fahren.” Even in combat, Hüttel suggests, riders would find the bit useful, but not absolutely necessary. Citing the Numidian riders of Roman times, Hüttel generalizes: “Die historischen Beispiele lehren, dass kein zwingender Zusammenhang zwischen Zähmen und Zäumen, zwischen Trense und Reiten oder Fahren besteht.”
- 82 See Wissler 1916, p. 27: “So far as we know, the Indian did not use a bit of his own manufacture and seldom a bridle or halter. He controlled his mount by a cord looped around the lower jaw.”
- 83 On the Numidians’ control of their horses “with rods or with simple cords passed around the neck” see Anderson 1961, p. 40 (and pp. 34 and 107).
- 84 Most succinctly, at *Peri Hippikes* 8.13–14 Xenophon declares that the essence of horsemanship is the rider’s training of the horse, through rewards and punishment, to respond readily and even eagerly to all commands.
- 85 See the perceptive remarks of Dietz 1998, p. 7, on the Plains Indians: “Anhand des Vorbilds der weissen Reiter, die Zäumungen mit Gebissen benutzten, konnten sie ihre eigenen Reitweisen entwickeln, erfanden jedoch nicht selbst das *Reiten*” (italics in the original).
- 86 Hüttel 1981, p. 191, suggests that the earliest of the dozen organic cheekpieces excavated in Anatolia be dated “in die zweite Hälfte des 15. bzw. in das 14. Jahrhundert.” On a priori grounds we must suppose that Anatolian charioteers used organic bits in the seventeenth and sixteenth centuries.
- 87 The hazards of riding in a vehicle pulled by galloping horses were vividly illustrated by Deborah Cantrell in her presentation, “Chariots Bounding,” at the 5 April 2003, session of the American Oriental Society’s annual meeting. Cantrell showed footage of the “bounding” and crashing of sulkies and other vehicles used in harness racing.
- 88 Anderson 1961, p. 45, first called attention to the use of the noseband by New Kingdom Egyptian charioteers.
- 89 On noseband control and its “strong, if not entirely satisfactory, braking powers” see Littauer 1969, pp. 291–92.
- 90 See Potratz 1966, pp. 110–16 for bits of this kind (“Typus II” in his typology). Potratz 1941, p. 3, and 1966, pp. 104–5, perversely insisted that the studs were intended to hold in place a leather pad. The taper of the studs would of course prevent them from holding anything in place. For the correct interpretation of the studs see Anderson 1961, p. 49; Littauer 1969, p. 289.
- 91 The first of these bits were discovered by Flinders Petrie at Gaza (Tell el-Ajjul). Although they have ever since been called “Hyksos bits,” and occasionally have therefore been assigned to the seventeenth century BC, Littauer and Crouwel 1979, p. 87, n. 59, observe that “what is known of their find contexts need not point to a date prior to the 15th cent.” In describing a recently discovered pair of these “Hyksos” disks, found at Tell al-Haddad in Iraq, Littauer and Crouwel 1988, p. 170, repeat that “most, if not all, can be dated to the second half of the 2nd millennium B.C.”
- 92 On the Near Eastern bits from the Late Bronze Age and early Iron Age see Potratz 1966, pp. 102–24. Potratz’ typology is based on cheekpieces, not mouthpieces, and so within each of his types one finds snaffles of both the straight bar and the jointed canon varieties. In his Typus I (“plate” cheekpieces) the straight bar predominates, whereas most specimens in Typus II (disk cheekpieces) and almost all specimens in Typus III (*Stangenknebel*) have jointed mouthpieces.
- 93 In Shaft Grave IV Schliemann found four bone disks, each with three studs protruding from the inner face, which in 1964 were finally identified as cheekpieces. Littauer and Crouwel objected to the identification, but their objections have been well countered, especially by Hüttel 1981, pp. 40–48.
- 94 One of these bits was found in a hoard at Mycenae, a second in a house at Thebes, and two more in a cemetery at Miletus. All four have been dated to the LH IIIB or IIIC period. In

- Donder's catalogue these are nos. 1–4; for dating see Donder 1980, pp. 113–14. See also Wiesner 1968, pp. 56–57.
- 95 Potratz 1966, pp. 227–28, knew only of the Mycenae bit, and assumed it was an import.
- 96 Anderson 1961, pp. 65–66. For the joined snaffle bit, made of iron, found at Lefkandi, see Sackett 1993, p. 71.
- 97 For the bronze bits of “Transkaukasien” see Potratz 1966, pp. 184–94; at p. 189 Potratz dates the earliest (his Typus I) to *ca.* 1000 BC.
- 98 The definitive catalog is now Dietz 1998. Her map at Tafel 48–49, shows that most of the known specimens come from two regions: the Kuban river area, off the northern slopes of the Caucasus, and the lower Dnieper. On the Pontic-Caspian bits see also Potratz 1966, pp. 194–223. Earlier scholars had dated the earliest bronze bits in this area *ca.* 1100 or 1050 BC, but Potratz argued for bringing the date down to *ca.* 900 BC. Dietz 1998, p. 181, dates the earliest to the ninth century BC.
- 99 See Bokovenko 1995b, Fig. 8 for the various types of jointed bits found at Arzhan.
- 100 Dietz 1998, p. 181.
- 101 Littauer 1969, p. 295. “The extremely long canons (260.4 mm. as compared with a maximum of 152.4 mm. today) of a 9th-century bit from Assyria in Berlin, whose working value has sometimes been questioned, appear, in the light of recent Cypriot discoveries, not to have been eccentric for their time.” In excavating eighth- and seventh-century chamber tombs in Cyprus, Vassos Karageorghis found bits of similar lengths (one measuring an astounding 304 mm) in the mouths of horse skeletons.
- 102 Anderson 1961, pp. 53–63. For especially horrid examples see Anderson Plates 34–35, and Donder 1980, nos. 79–81.
- 103 In Donder 1980 these are nos. 5–32.
- 104 Donder 1980, p. 114.
- 105 Balkwill 1973, pp. 425 ff.
- 106 Balkwill 1973, p. 437, discusses his “Group 1” bits, all of the straight bar variety: “All the mouthpieces of this group conform to a simple basic type, which is taken as the earliest expression in bronze of wooden originals. The form of the cheekpieces in the Mengen grave is an imitation, as Thrane observed, of antler prototypes. The bits for which dating evidence is available conform to the horizon Bz D or Ha A1.” For the first bronze cheekpieces in Denmark and elsewhere in northern Europe see Thrane 1963, pp. 92–99. Thrane dates the earliest northern and central European specimens to the Montelius IV period (end of the second millennium).
- 107 For his “Group 4” see Balkwill 1973, p. 443: “The jointed bit, necessarily developed in metal and not organic material, appears first in western Europe in Ha B2/B3; although in the Riegsee-horizon hoard of Uiora del Sus, a pair of jointed bits had already appeared in Rumania, they lie outside the area of this study: their cultural context would seem to be that of the early Rumanian cheekpiece hoards, and they must belong to the social phenomenon reflected in group 1 bits. The origin of group 4 may belong in this region, eventually being transmitted westward via the Danube in Ha B.”
- 108 See Bokovenko 1995d, p. 305: “As a result of careful studies it has been possible to ascertain tendencies in the development of bridles and psalia. Around 8th century B.C. the three-holed bridle bit, carved from horn and used at an earlier date, was replaced by bronze bridle bits. These bits were cast with a stirrup-shaped end and an additional hole (Fig. 11) into which were inserted the strict frame-shaped psalia (Fig. 11).”
- 109 Bokovenko 1995c, p. 286, on the Scythian culture of Tuva: “The earliest bridles were without a bit or, more exactly, the bits were made of a twisted strap which has not survived. The bridles had curved three-holed bone psalia with each end decorated differently. The area around the holes had a slight thickening (Fig. 2). Later, when bridle parts were cast out of bronze, new styles became a possibility. Bridle bits were cast in two parts with stirrup-shaped ends and occasionally with an additional round hole. The cheekpieces are of different

types and include v-shaped ones with an additional projection, and rod-shaped ones. The latter type imitates the three-holed bone psalia (Fig. 1). This bridle is considered innovative because the cheekpieces connect to the bit by means of special overlapping straps. Beginning in the 6th century B.C. onering bridles appeared. The inner diameter of the ring is more than 20 mm. This ring received a two-holed cheekpiece held to the horse's muzzle with two straps (Fig. 4). This system of attachment has survived practically without changes to this day."

110 Yablonsky 1995, p. 202.

111 At *Iliad* 19.393 Automedon and Alkimos harness the team for Achilles' chariot, and place the χαλινούς into the horses' mouths; see Anderson 1961, p. 66.

112 On the merits of the "flexible" bit see Xenophon *Peri Hippikes* 10. 8–11.

113 Hermes 1935, pp. 815–23. For Hermes, the important distinction in bits was not between organic and metal specimens, but the form of the cheekpiece: the *Knebeltrense*, because of its lever action, was far superior to the disk cheekpiece, which had characterized the *Hyksostrense*. Whether the *Knebeltrense* was antler or bronze was not, she believed, very important (Hermes did not much consider the action of the mouthpiece). Hermes was to some extent misled by her chronology for the appearance in Europe of the bronze bit (her Type C) and the organic bit (Typus B). See Hermes 1935, p. 823: "Um die Wende etwa der älteren zur jüngeren Bronzezeit wurde die Pferdezeit in ausgebildeter Form in Europa eingeführt. Ihre Geräte waren mannigfaltig. Die Hirschhorn- oder Knochentrense als das weniger kostbare Gerät gehörte zu den normalen Geschirrzug eines Pferdes. Die Bronzetrense in mehrfacher Gestalt war das wertvolle Besitzstück der Reichen." Hans-Georg Hüttel, who catalogued all the bits known from central and eastern Europe (which for Hüttel included the Pontic-Caspian steppe), concluded that "Bronzeknebel und bronzene Mundstücke sind im 'barbarischen' Europa erstmals in jungbronzezeitlichem Fundzusammenhang bezeugt" (Hüttel 1981, p. 124). At p. 179 Hüttel puts this in absolute terms for the most westerly part of the area which he surveys: "Die frühesten Bronzetrensen in Mitteleuropa begegnen mit Beginn der Jungbronzezeit im 13. Jahrhundert." Organic bits, on the other hand, are attested in temperate Europe at least as early as the 16th century.

114 Wiesner 1939, pp. 28 and 56–60.

115 Clark 1941, p. 60: "Although, therefore, nothing conclusive can be argued from the absence of bits, their presence is crucial, as the Germanists have been quick to realize. Every effort has been made, not only to establish the antiquity of the bit in northern and central Europe, but also to proclaim it as one more invention symbolic of the warrior-superiority of the Nordic stock. The assiduity, and on occasion, the effrontery with which this object has been pursued, have combined to secure much wider assent than the evidence justifies. The baselessness of such pretensions has been well exposed by Gertrud Hermes to whose papers the reader may refer for a very full statement of the relevant facts. Although perhaps pressing some of her points a little far, she effectively disposes of the case for bits in Neolithic and Early Bronze Age Europe."

116 For Hančar's typology and chronology of all the bits known to him, from the earliest appearance of organic cheekpieces to 500 BC, see Hančar 1956, Tabelle 62 (endpaper, inserted on back cover).

117 Hančar 1956, p. 561: "Was ist Schlussglied der Entwicklungsvollendung zum Pferdeboogniveau? Jedenfalls Pferdebeherrschung durch die Trense, deren Entwicklungsanstieg mit breiter Umstellung auf Bronze als Herstellungsmaterial und mit reicher Formentfaltung in typischer Versuchsarbeit ab rund 800 v.Chr. im Steppenbereich von der unteren Donau bis zum Jenissei tatsächlich mit dem ersten Erscheinen der Pferdeboogner zusammenfällt."

118 Anderson acknowledged the arguments along this line made by N. Yalouris (see Yalouris 1950), and took them much further. In Anderson 1961, chapters 3 through 5 (pp. 40–78) present not only a remarkably lucid description of the bit and its action, but also a general

history of the bit in antiquity. Anderson noted (p. 13) that a competition in horseback riding was added to the Olympic Games in 648 BC, at about the time that the so-called “Corinthian” bit first appears in vase paintings.

119 Littauer 1969.

120 Smirnov 1961.

121 Potratz 1966, pp. 227–28, observed that *Metalltrensen* were used in the Near East from at least the Amarna period, and probably from ca. 1700 BC, but were not used outside the Near East: “Ausserhalb Vorderasiens gibt es faktisch keine Bezeugung, die älter als das Jahr 1000 ist (das Mykeners Gebiss war ein zweifelsfreies Importstück).”

122 Potratz 1966, p. 50, argued against Wiesner and others (although not against Anderson, whose work he does not cite) who believed that riding was rare and inefficient long after chariots had come into use: “Im Gegenteil spricht alle hippologische Evidenz dafür, dass man vom ersten Zeitpunkt der Domestikation an von der leicht zu praktizierenden Möglichkeit, sich rittlings auf einen Pferderücken zu schwingen, Gebrauch gemacht hat. Wenn dabei irgendeine Technik des Zügelns zur Verfügung stand, gibt es keinen vernünftigen Grund, Pferdereiter nicht seit frühesten Tagen als existent anzunehmen.” What “hippologische Evidenz” Potratz may have had in mind I do not know, but nowhere in his several hippological studies did Potratz investigate ancient riding, or present any textual or pictorial evidence for the frequency and competence of riding in the Bronze Age.

123 Potratz 1966, p. 228 credited the popularity of the bronze bit to the Assyrians’ “Wiederbelebung der Kampfwagengeschwader. Sie schufen damit ein—durch ihre kriegerischen Erfolge weiterhin befördertes—Vorbild, das sogar über die nahen Bereiche hinauszuwirken vermochte. Erst durch diese Vorgänge im engeren Sinne wurden in der übrigen Welt die metallenen Pferdeausrüstungen inauguriert.”

124 Tentatively Hüttel 1981, p. 174; more emphatically Hüttel 1994, pp. 198–99.

5

Plunder

1 On all this see now the excellent overview by Doyne Dawson, especially the third and fourth chapters in Dawson 2001.

2 Rolle 1989, pp. 64–65.

3 An accessible description of the several kinds of ancient bows is McEwen, Miller and Bergman 1991. For a more technical presentation see Miller, McEwen and Bergman 1986.

4 A detailed study of the Skythian bow was made by Anna Hančar, and on the basis of the *gorytos* specimens that have been found she concluded that the typical Skythian bow was no more than ca. 60 cm long (Hančar 1973, p. 15). Cernenko 1983, p. 11, estimated the length of the Skythian bow at ca. 80 cm. McEwen, Miller and Bergman 1991, p. 81, conclude on the basis of the Pazyryk bow cases “that the Scythian bow was about 127 centimeters long. Shaped like Cupid’s bow, it had a set-back handle and reflexed limbs terminating in recurved ends. Such a length and design, incorporating a heavy reflex in the handle section and flexible limbs, provides a draw length of about 76 centimeters.” Even at 127 cm, the Pazyryk bow is described by the authors as “relatively short.” Bows up to 200 cm in length (approximately the length of the medieval longbow) are known from the neolithic period. The chariot warrior’s angular bow was slightly more than 150 cm long, with a draw length of almost a meter.

5 Rolle 1989, p. 65.

6 Hančar 1973, pp. 5–6.

- 7 According to McEwen, Miller and Bergman 1991, p. 80, the composite bow was powerful enough to propel an arrow about fifty meters per second at full draw. An archer on horseback, however, and without stirrups, would probably not often have shot at full draw.
- 8 Pictured in Figure 5.2 is a bronze figurine on a Greek *lebes*, now in the British Museum, found in southern Italy and dating to the fifth century BC. For a Greek vase painting of two riders with pointed caps making the "Parthian" shot see Minns 1913, p. 55, Fig. 9 or Rolle 1989, p. 72, Fig. 46. For a survey of the "Parthian shot" in ancient art see Rostovtzeff 1943.
- 9 How this worked in reference to chariot archers was well explained by Stuart O'Steen, of Boulder, Colorado, in an Aegeanet posting on 7 April 1998: "A force of retreating chariots would have other advantages, as well. They would be firing with a wind at their backs, increasing their arrow range and flattening their arrows' trajectory relative to their pursuers who must fire into a wind. In fact, a pursuing force would be at such a disadvantage that it is difficult to imagine that they would pursue at all without an overwhelming advantage in numbers."
- 10 In Rostovtzeff's survey this relief from Nimrud was missed: "The earliest monuments known to me in which the figure of a rider shooting back appears are some products of late Assyrian and Phoenician art of the eighth and seventh centuries B.C. The figure appears in all of them in scenes of hunting, not of fighting" (Rostovtzeff 1943, p. 180).
- 11 Sekunda 1989, p. 82; Mayer 1995, p. 468.
- 12 Sekunda 1989, pp. 82–83, concludes that the Persian shield was made "from a large rectangle of thick leather, into which osiers would be inserted when still supple and uncured; when the leather hardened, the combined virtues of the two materials employed resulted in a shield of great lightness, yet of great resilience and rigidity. These pavises were called *spara* in Old Persian, and the troops who carried them were called *sparabara* or 'pavise-bearers'." Greek vase-painting suggests that the shield extended almost from the ground to eyelevel. The *sparabara* (who were armed with spears) took up their position in front of the archers, the *spara* making a virtual wall behind which the archers operated. The formation seems poorly suited for a battle in which hand-to-hand fighting was expected.
- 13 For the sarcophagus (G 1 in R.M. Cook's catalogue) see Cook 1981, plates 39–41. Cook observes (p. 33) that every rider carries a *gorytos*, and that although one rider certainly wields a spear the others are armed with swords. For the vase paintings see Greenhalgh 1973, p. 144. Perhaps because these horsemen were primarily archers but had to confront opponents on the ground they preferred a secondary weapon that could be carried in a sheath. Greenhalgh found no vase painting in which the cutlass is shown in the hands of the "Skythian" horsemen of the Pontic-Caspian steppe (these Skythians carried daggers or dirks, but not slashing swords).
- 14 The fifth chapter ("Fire") in Keegan 1993 provides an excellent overview of the ways in which warfare was transformed by gunpowder in the fifteenth and sixteenth centuries. Although no longer dominant, cavalry continued to be a force to be reckoned with until late in the nineteenth century, when the repeating rifle and the machine gun finally made the cavalry charge obsolete.
- 15 In his caricature of the Huns who vanquished the Goths in 375, Ammianus Marcellinus (31.2) described them as virtually glued to their horses, eating and sleeping on horseback, and defecating off the sides. Their arrows, he said, were tipped with bone instead of with metal. On the mounted archers of the Mongols see Martin 1950, p. 19: "As many a stricken battlefield bore witness, Mongol horsemanship and archery made the armies of Chingis Khan and his successors almost invincible. A fact that should be kept in mind is that the attainment of such qualities in the same degree was well nigh impossible for any but pastoral peoples. Taught to ride at the age of three by his mother, the young Mongol was tied to the back of a horse. On reaching the age of four or five he was given his first bow and arrows and from then on was encouraged to spend as much time as possible hunting on horseback. Consequently, his riding and archery became superb."

- 16 Thomas 1986, pp. 162–64 describes Stuart’s personal adventures on the fall campaign of 1862 but for the performance of his cavalry see Denison 1913, pp. 368–69.
- 17 Martin 1950, p. 18: “During September 1221, Chingis Khan, hoping to overtake the Khorezmian Jalal ad-Din, went from Bamian to Ghazna via Kabul in two days without allowing his men a single halt long enough to prepare food. The distance was about 130 miles, an astonishing achievement since the country crossed was some of the highest and roughest in Afghanistan.” Martin also notes that Mongolian riders, even those traveling without a spare mount, were known to ride from Urga to Kalgan, a distance of at least 600 miles, in nine days. And that in 1241 the grandson of Genghis Khan led a force up the Ruska pass of the Carpathian mountains and down the other side into the Hungarian plain, a distance of 180 miles, between 12 March and 15 March.
- 18 Mayer 1995, pp. 102–3, has several good paragraphs on the raids that Kimmerians, Skythians and other *Reitervölker* conducted against the sedentary populations of the Near East. The nature of the raid on horseback is also brought out very well by O’Connell 1995, but O’Connell retrojects to the neolithic period what seems to have begun in the Iron Age.
- 19 For Herodotos’ Kimmerian stories see especially 1.15–16, 1.103 and 4.11–13.
- 20 See George Rawlinson 1870, vol. 2, p. 225, n. 3, about the reasons for what he imagined was a massive invasion of the Near East by Skythians from north of the Caucasus: “The opinion of Herodotus that they entered Asia *in pursuit of the Cimmerians* is childish, and may safely be set aside.”
- 21 See, for example, Parker 1995, p. 27: “Die Absurdität einer drei Jahrzehnte währenden Herrschaft der Skythen über Vorderasien während der Glanzzeit des assyrischen Reiches unter Aššurbanipal liegt auf der Hand.”
- 22 Umberto Cozzoli dealt especially with the Greek evidence, and was emphatic that the Greek evidence had to yield to the cuneiform evidence wherever the two were in conflict (Cozzoli 1968). Assyriologists Mirjo Salvini in 1984 and Igor Diakonoff in 1981 treated the Akkadian texts critically, although briefly. Although Anne Kristensen’s monograph (Kristensen 1988) attempted to improve on their conclusions, her own were far-fetched and poorly supported. Lanfranchi 1990 is excellent, especially on the Akkadian texts; his handling of the Greek material is more restricted, but on the right track. Askold Ivantchik has now provided a definitive treatment of the Kimmerians in cuneiform records. The “corpus des textes” in Ivantchik 1993a, supplemented by two texts in Ivantchik 1993b, provides a transliteration of the Akkadian and a French translation for fifty-six Assyrian and Babylonian documents in which reference is made to the Kimmerians or to their land (*Gamir*).
- 23 Cogan and Tadmor 1977, pp. 75–76, give a composite text of the Gugu narrative, culled from its six recensions.
- 24 Cogan and Tadmor 1977, pp. 81–82.
- 25 Cogan and Tadmor 1977, pp. 79–80.
- 26 So, for example, Cogan and Tadmor 1977, p. 78 (“his violent death at the hands of the Cimmerians”), or Ivantchik 1993a, p. 104 (“les Cimmériens ont tué le roi lydien”).
- 27 I am indebted to my colleague, Jack Sasson, for discussing with me the meaning of the words, *pān nakrešu paḡaršu linnadīma liššūni eṣmētīšu*. In *The Assyrian Dictionary of the University of Chicago*, under the entry *eṣemtu*, this phrase from the “Rassam Cylinder” is cited along with six other passages, and in each the meaning of *eṣemtu* is “the remains of the dead,” or “bones.” In a close parallel to our text Ashurbanipal boasted of his own activities at Babylon, “I brought forth their bones from Babylon and spread them around the outskirts of the city.” In another inscription he claims, “I ravaged, tore down, and laid open to the sun the graves of their kings, both the earlier and the later ones, I took their bones to Assyria, thus I inflicted unrest upon their ghosts.”
- 28 The Karniyarik Tepe, one of the largest tumuli at Bin Tepe, has been identified as the Tomb of Gyges (a monogram of four letters, which was incised at least 25 times on the interior

- blocks, was read by Hanfmann as *GUGU*). Excavated in the early 1960s by C.H.Greenewalt, Jr., the tomb was found to have been plundered in ancient times, the robbers having tunneled from the south and the northeast sides. See Hanfmann *et al.* 1983, pp. 57–58.
- 29 Cogan and Tadmor 1977, p. 79, note 25, suggest 650 BC as the terminus post quem for Gyges' death, but if the "Rassam Cylinder" informs us about the plundering of Gyges' tomb rather than about his death, he may have died before 650 BC.
- 30 Hanfmann *et al.* 1983, p. 43 and p. 238, note 5.
- 31 Found at Strabo 14.1.40, this is Fragment 5a in the West 1972 edition. For Edmonds' translation see the Loeb text.
- 32 Kallimachos, *Hymn to Artemis* 3. 251–58.
- 33 His death was described in the 640 BC edition of Ashurbanipal's annals. Ivantchik dates the great raid on western Anatolia in 644, and Lygdamis' death in 641. The Greeks also remembered Lygdamis' death: see Strabo 1.3.21. The invasion by Lygdamis, or Dugdamme, figured in an argument between Samos and Priene, in an inscription of 283 BC (Ivantchik 1993a, p. 114).
- 34 Ps.-Skymnos, in *ad Nic.* lines 992–97, says that Habrondas, an early founder of Sinope, was killed by Kimmerians, and that "after the Kimmerians" Sinope was re-settled, Milesian refugees re-founding the city "when the *stratos* of the Kimmerians overran Asia."
- 35 On Magnesia see Strabo 14.1.40; on Antandros see Aristotle, fragment 478 (Rose) (=Steph. Byz, s.v.Antandros).
- 36 In extant literature the story appears first in Strabo 1.3.21. But because Strabo assumes that his readers knew the story we may assume that it had been told by a writer of the Classical period.
- 37 Steph. Byz. s.v.Syassos. Cf. Ivantchik 1993a, p. 69 on this tradition about Kimmerian operations in Phrygia: "Le caractère du récit et la mention d'une localité bien précise assurent du moins l'authenticité de la présence des Cimmériens en Phrygie."
- 38 For a good presentation of the problems see Ivantchik 1993a, pp. 68–73.
- 39 In the corpus assembled by Ivantchik 1993a the letters of Sennacherib to his father Sargon are nos. 1–3. Because documentation for Sargon's reign is so much fuller than for his predecessors we cannot be sure that the Kimmerians first became a problem *ca.* 714 BC. See Lanfranchi 1990, p. 127.
- 40 Ivantchik 1993a, nos. 4–6.
- 41 For the evidence in detail see Tadmor 1958, pp. 97–98, with note 311. The mutilated text referring to the death of an (unnamed) Assyrian king in the ^{kur}*Gi-m* { } is letter ABL 473, from the late eighth or early seventh century. The Babylonian Chronicle reports that in his seventeenth (and last) year Sargon campaigned against Tabal, but the entry breaks off at that point. The Assyrian Eponym (*limmu*) Chronicle's entry for 705 BC reports that while on campaign "against Ešpai the Kulummaean" Sargon was killed and his camp was captured, and the reference may be to the Median town of Kuluman. Lanfranchi 1990, pp. 43–45, leans toward identifying the slayers of Sargon as Kimmerians; Ivantchik 1993, pp. 53–55 is agnostic.
- 42 Ivantchik 1993a, nos. 7–9 (the three inscriptions are displayed, respectively, on a "prism," a "cylinder," and a stele). Lanfranchi 1990, p.182 observes that because Esarhaddon refers to Teušpā simply as "the Kimmerian" and not as a king, we may suppose that Teušpā was a "capo militare."
- 43 Starr 1990, no. 24, lines 8–10 (rev.). In Ivantchik 1993a this document is no. 22. For other interrogations of Shamash in which Kimmerians are featured see Ivantchik's nos. 17–19 and 23–40.
- 44 Ivantchik 1993a, document no. 24, lines 3–6 reverse.
- 45 On the variation between Aškuza and Iškuza in Akkadian sources see Mayer 1995, p. 114, n. 4.
- 46 Text and translation from Starr 1990, no. 20, lines 1–8.

- 47 Winckler 1897, p. 488. The equation of Bartatua and Protothyēs is assumed without question by Starr 1990, p. lxii.
- 48 Starr 1990, no. 66, lines 2–5.
- 49 Starr 1990, no. 71, lines 3–5 (rev.).
- 50 A weakly supported theory; see Starr 1990, p. Ivi.
- 51 Ivantchik 1993a, pp. 78–79.
- 52 Starr 1990, no. 23, lines 5–6 obverse and 9–12 reverse.
- 53 Some attempts have been made to link Skythians (via the *Sakai* of Iranian ethnography) to the *Sai* mentioned in Chinese texts, and to locate the latter in the valley of the Ili river, which flows into Lake Balkash. For a critical assessment of such attempts see Hulsewé 1979, pp. 104–5, note 210.
- 54 *Airs, Waters, Places* 22.
- 55 I owe this information to Professor Mary Voigt, who has been excavating at Gordion since 1987. In personal correspondence (21 September 2001) Professor Voigt informed me that YHSS 6A, the stratum that has traditionally been associated with the Kimmerian invasion and the end of Midas' reign, must now be dated between 830 and 800 BC.
- 56 I thank Professor Lawrence Stager for the information (personal communication, 25 May 2002) that no seventh-century BC temple has yet been found at Ashkelon: "Whether the temple of 'Heavenly Aphrodite' was inside or outside the city walls of Ashkelon is impossible to say. Either is possible."
- 57 For several views on this question see Hyatt 1940, Cazelles 1967, Vaggione 1973, Millard 1979, and Yamauchi 1982 and 1983.
- 58 See, for example, Cozzoli 1968, pp. 108–9, or Saggs 1973, p. 165. The identification was first put forward in the nineteenth century. In his entry, "Gog and Magog," in the sixth volume (1909) of the *Catholic Encyclopedia*, James F. Driscoll found the identification the best of several possibilities. Diakonoff, 1981, p. 109, discussing "Gog of the land Magog," identifies him with Gyges, but dates the incursion to the reign of Gyges' son or grandson. *Magog* was "the Land of Gog," and so synonymous with what Greek writers knew as Lydia: "Gôg is here a regular rendering of Assyr. *Guggu* (<*Gûg*-), Greek Γῶγης; however, it denotes not the historical Gyges who had long been dead by that time, but is, as it were, a dynastic designation of any king of Lydia (of *Mgwg*; the correct vocalization is probably **Maggûg* instead of the traditional *Mâgôg*, from Assyr. *mā* (t) *Gûg*(i) 'the land of Gyges')." 59 Jettmar 1966, p. 6.
- 60 Cozzoli 1968 effectively demolished the Greek tradition that the Kimmerians who raided the Ionian cities came from the Crimean Bosphorus. Cozzoli concluded (p. 105) that the only way to save the Greek tradition is to suppose that long before their attack on western Anatolia the Cimmerians had migrated from the Crimea to eastern Anatolia. "Ma la tradizione è salva, come si vede, in base ad una congettura debolissima e destituita di appoggio documentario." Quite independently of Cozzoli, Mirjo Salvini came to the same conclusion: Salvini saw no credible evidence for a Kimmerian "invasion" and placed the land of *Gamir* southeast of Lake Urmia (Salvini 1984). For a Kimmerian homeland near Mannea (the capital of which was at Hasanlu) or across the Zagros see also Lanfranchi 1990, p. 128: "I Cimmeri rappresentano il più antico esempio disponibile dell'assunzione di potere e di responsabilità da parte di classi dirigenti di origine zagrica, e più generalmente iranica, all'interno o in contrapposizione con le strutture statali, antiche o di nuova formazione che dir si voglia. La posizione geografica attribuibile al loro paese d'origine, il Gamir, posto nelle immediate vicinanze della Mannea, e il nome quasi sicuramente iranico del loro capo Teušpā che fu sconfitto da Esarhaddon, restano a tutt'oggi le prove difficilmente confutabili di questa loro provenienza e affiliazione etnico-linguistica."

- 61 According to Manfred Mayrhofer, “Mir kommen *Išpaka*, *Bartatua* und *Madyes* noch wie vor iranisch vor” (personal communication, 28 July 2000). On Skythian nomenclature see Ivantchik 1993a, p. 62, n. 33.
- 62 For an example see Ivantchik 1993a, no. 27, an interrogation of Shamash, in which Esarhaddon asks whether in the next hundred days “soit Kaštariti avec ses troupes, soit les troupes cimmériens, soit les troupes mède, soit les troupes mannéennes, soit l’ennemi quel qu’il soit, est-ce qu’ils feront des préparatifs, est-ce qu’ils auront des plans?” The same trio of names—Manneans, Medians, Kimmerians—recurs frequently in other interrogation texts.
- 63 Mayer 1995, p. 104, assumes that—whatever they may have been called in the Iron Age—“das Luristan-Volk” were part of the *Reitervölker* who gave the Assyrians much trouble. I would suggest that the inhabitants of Luristan were not themselves riding raiders, but rather were victims of the raiders. In any case it is very likely that the metalworkers of Luristan produced some of the weapons used by men who fought on horseback. Mayer makes the good suggestion that the decorated axes that have been found in great numbers in Luristan graves would have been efficiently used as a hand-to-hand weapon by men on horseback.
- 64 Diakonoff 1981; cf. Lanfranchi 1990, p. 206 and n. 65; Mayer 1995, p. 102, concludes that in the Assyrian texts the various *Reitervölker*—Kimmerians, Medians, Skythians—“auf das Engste miteinander verflochten und vermischt waren.”
- 65 Ivantchik 1993a, pp. 86–87, points out that in the Shamash-inquiries there are four references to “Skythians” in Neo-Babylonian characters, and only two in Assyrian characters. Evidently scribes in all parts of Mesopotamia used both terms.
- 66 As we have seen, in asking the sungod’s advice about sending a messenger to Hubuškia, Esarhaddon asked (Starr 1990, no. 24) whether the messenger will “be attacked by the Cimmerians, [or the Urtians], or the Manneans, or the Scythians, [or the...jeans, or any enemy, (and whether) they will seize and kill [that messenger].” Although Ivantchik has undone Diakonoff’s claim that “Skythians” and “Kimmerians” never appear together in a cuneiform document, it is still likely that on the larger argument Diakonoff was right. Esarhaddon’s fear that Mannean troops might be in the vicinity of the Hubuškia pass is understandable. But it is difficult to imagine that two additional forces—“the Kimmerians” and “the Skythians”—were lurking in the same vicinity at the same time. A more likely explanation for the appearance of both these names in this query to Shamash is that the names are indeed synonyms: Esarhaddon is throwing in both names for good measure, to be on the safe side in case Shamash is accustomed to hearing the one name but not the other. The point was to supply every conceivable name for the enemies who may have been operating near Hubuškia. The Shamash inquiries provide many examples of the king’s “covering all bases.” In Starr 1990, no. 280, lines 11–12, Ashurbanipal asks whether an aggressor from the far south will do battle “with the men and army of Assurbanipal, king of Assyria, or with the Assyrians, or the Akkadians, or the Chaldaeans, or the Arameans who have grasped the feet of Ashurbanipal.” Clearly many people belonged to more than one of these collectives. In Starr 1990 query no. 139 (Ivantchik 1993a, no. 37), Esarhaddon, worried about a possible revolt against him, devotes eighteen lines to an exquisite enumeration of every conceivable group of his relatives, subjects, courtiers, and officials.
- 67 Diakonoff 1981, p. 131.
- 68 Gamir was within striking distance of Urartu, but was separated from Urartu by a district (vassal to Urartu) known as Guriana. See, for example, lines 6–12 of no. 4 in Ivantchik 1993a, a tablet in which an officer of Sargon II informs his king about the Urartian king’s defeat in Gamir: “Guriana est un district entre l’Ourartou et la Gamirra. Elle donne le tribut a l’Ourartou. Quand l’Ourartéen est allé contre la Gamirra, alors la défaite a été infligée a l’Ourartéen.”
- 69 I argued long ago (Drews 1976) that the Greeks began sailing into the Black Sea around the middle of the eighth century BC, and that Sinope and Trebizond (Trapezos) were both founded at about that time.

70 Lanfranchi 1990, p. 141.

71 For Greek settlements on the north shore of the Black Sea see the meticulous surveys by J.G.F. Hind. For Olbia and Berezan Island see Hind 1984, pp. 78–82, updated in Hind 1993, pp. 92–95. It is likely that Olbia itself was founded *ca.* 600 BC, but the settlement of Hellenes at Berezan Island (or, simply, “Borysthenes”) evidently was decades earlier, and possibly as early as the middle of the seventh century.

72 Herodotos 4.12.1.

73 Lanfranchi 1990, p. 142, noted the circularity of the place-name argument: “La prova della provenienza scitica dei Cimмери, secondo Erodoto, era l’esistenza ai suoi tempi di toponomastica cimmerica in Scizia (mura cimmeriche, stretti cimmerici, regione cimmerica, Bosforo cimmerico) e delle tombe dei re cimmerici poste presso il fiume Tyrēs. Ma nulla garantisce che questi nomi ‘cimmerici’ non fossero stati dati a quei luoghi dai coloni greci stessi, forse a ricordo della ‘città cimmerica’ di omerica memoria. Lo Pseudo-Scimno, riferendosi ad una città sul Bosforo Cimmerico dal nome di *Kimmeris* (forse da identificarsi con la ‘regione’ cimmerica indicata da Erodoto) sottolinea che essa era una fondazione dei tiranni bosforani, e che il suo nome voleva ricordare l’antico popolo dei Cimmerici.”

74 For this view see especially Strabo 5.4.5.

75 On this remarkable man see Bolton 1962. According to Herodotos 4.14–15, Aristes died for the first time on Prokonnesos while visiting a fuller’s shop. The fuller in distress rushed out to find Aristes’ relatives and notify them of the tragedy, but when the group returned to the fuller’s shop Aristes had disappeared. Reports came in that he had been spotted near Kyzikos, and seven years after his first death he reappeared in Prokonnesos, wrote his *Arimaspea*, and then disappeared again. Two hundred and forty years later Aristes made an even briefer appearance in Metapontum, on the southern coast of Italy, and informed the Metapontians that he and Apollo had visited their town, and that in appreciation the townspeople should erect an altar to Apollo and a statue of Aristes, which they then did.

76 Most recently, Pydyn 1999. For an attempt to reconstruct seventh-century history out of Herodotos’ story of a Kimmerian folk migration see Parker 1995.

77 For drawings of the Zaghunluq caps see Mallory and Mair 2000, pp. 215 and 220.

6

The Iranian empires

1 For this Attic black-figure vase of *ca.* 565 BC see Anderson 1961, pp. 145–46 and his fig. 30a. See also Greenhalgh 1973, p. 115 and fig. 58.

2 This likelihood has been recognized by scholars who see both *Gimirrai* and Skythians as Iranians. See, for example, Cozzoli 1968, pp. 107–9, where *Gimirrai* are well described as “un popolo di caratteristiche, in generale, iraniche,” and grouped with other northwest Iranians—Medians and Scythians especially—who menaced the older and more established states west of the Zagros. Instead of asking whatever became of the Kimmerians we should recognize that “il loro nome scomparve in conseguenza della fusione con altri popoli.” (107)

3 For the so-called “Nabopolassar Chronicle” of the Babylonian Chronicle series see A.L. Oppenheim’s translation in *ANET*, pp. 303–5.

4 In the inscription that Darius had displayed at Behistun he described his battle against a Median pretender who claimed to be “Khšathrita of the house of Uvakhštra.” See DB IV, line 19, in Kent 1950. Kent translated the line as “I am Khshathrita, of the family of Cyaxares.”

5 In Akkadian, *Ma-da-a-a* is the name both for the land of Media and for the inhabitants of the land, the Medians. I thank Professor Matt Waters (personal communication 7 July 2000) for this clarification.

6 Zawadzki 1988, pp. 118–20.

7 The name *Astyages* is a hellenization of the name which Babylonian scribes knew as *Ištumegu*, but the Old Persian name is nowhere recorded. Herzfeld 1935, p. 40, guessed that it was *Arštivaiga*, “thrower of lances.” If Herzfeld was correct, the Greek rendition of the name would have been much closer to the Old Persian original than was the Akkadian.

8 The Elamite kings had styled themselves “kings of Susa and Anshan.” When the Elamite dynasty was terminated by Ashurbanipal, the Persian Teispes made himself ruler of Anshan. Cyrus’ own inscriptions give us the names of Cyrus’ ancestors—Teispes, Cyrus I, and Cambyses—who had ruled from Anshan. On these see Waters 1999, pp. 104–7.

9 On the location of Anshan see Sancisi-Weerdenburg 1995, p. 1040. For Cyrus’s self-identification see, for example, a building inscription from Ur, in which he introduces himself as “Cyrus, king of the world, king of Anshan, son of Cambyses, king of Anshan.” For the Akkadian text and the translation see Waters 1996, p. 13.

10 Ktesias (*FrGrHist* no. 688), frag.1, paragraphs 24–28, made *Arbakes* the man who destroyed the Assyrian empire of Sardanapalus, and who established the Median kingdom at Ekbatana. A northwest Iranian chieftain named *Arbaku* appears in Assyrian records from the reign of Sargon II. See Luckenbill 1927, vol. II, no. 192, and the reconstruction offered by Labat 1961. *Arbaku* evidently became a proud name, and was borne by Herodotos’ “Harpagos” and other Medians over the course of three centuries.

11 There is a considerable literature on the “Harpagid source.” See now Parker 1995, pp. 26–27.

12 Herodotos’ information about the Skythian Protothytes (Bartatua in Akkadian sources) is one strong argument for a Median oral tradition that preserved at least a few facts of seventh-century history until the fifth. Another argument is based on Herodotos’ error in identifying Kyaxares’ predecessor as “Phraortes,” an error that could have been made only by someone who knew a fair amount of Median history, but remembered it imperfectly. “Phraortes” is certainly an attempt to render in Greek the name *Fravartiš*, a Median pretender in 521 BC. Darius complains in the Behistun inscription (column 2, lines 13–17) that this Fravartiš proclaimed, “I am Khšathrita of the Uvakhštra family,” and that on hearing the proclamation the entire Median army defected to Fravartiš. In the decades after 521 BC and among at least a few Medians the name of the imposter (Fravartiš) evidently supplanted the royal name (Khšathrita) that he had assumed, and so “Phraortes” became an early Median king. The first Khšathrita (Kaštaritu in Akkadian texts) lived in the 670s BC, gave Esarhaddon no end of trouble, and was evidently still a revered name in Media in 521 BC. For details of this complicated argument see Labat 1961 and most recently Parker 1995, 25–26.

13 This is very clearly demonstrated by Zawadzki 1988, pp. 64–98. When C.J. Gadd discovered the “Nabopolassar Chronicle” and found therein the statement that the *Umman-manda* destroyed Nineveh, he proposed that the *Umman-manda* were to be identified with Skythians. As Zawadzki shows, the term was actually the chronicler’s synonym for Medians (^{kur}*Ma-da-a-a*).

14 For the numbers of the Urartian and Assyrian cavalries see Mayer 1995, p. 458. Postgate 2000, pp. 90–93, analyzes a tablet listing the military strength available to the Assyrian governor of Zamua during the reign of Sargon II, and concludes that the governor had 10 chariots, 97 cavalrymen, and 880 infantrymen.

15 Dalley 1985, pp. 43–44, notes that in the Nineveh Horse Lists the cavalry horses are *mesaya*, “from Mesu,” evidently on the Urartian-Mannean border, whereas the chariot horses are invariably described as *kusaya* (coming from Kush). Horses brought from Ethiopia were larger than Iranian horses and better for draft. Noble 1990 argues that Sargon II was the last Assyrian king to make use of the chariot in battle.

16 On the difficulties of trying to reconstruct the course of Assyrian battles from Assyrian pictorial and textual sources see Mayer 1995, pp. 476–77, and Dawson 2001, pp. 189–90. On pp. 190–99 Dawson presents a plausible reconstruction of what Assyrian warfare may have looked like in the NeoAssyrian period. Mayer’s ninth chapter provides a more detailed

- overview of what the sources reveal. Pp. 461–66 treat “die Infanterie,” but this heading includes only those troops armed with hand-to-hand weapons; on pp. 466–70 (“die Artillerietruppen”) Mayer deals with the infantry archers.
- 17 Postgate 2000, p. 104.
- 18 Mayer 1995, pp. 466–68, has an excellent description of the range and effectiveness of archers. They were at their best when the enemy had just come into bowshot range, and were virtually worthless if the enemy closed to within a few dozen meters. It was for that reason that the archers had to be protected by a line of spearmen: “Wegen der eingeschränkten Schussmöglichkeiten auf kurze Entfernung, mussten sich Bogenschützen gegebenenfalls unter den Schutz der Pikeniere begeben” (Mayer 1995, p. 468). These “pikemen” first appear in their protective role in the reliefs of Tiglath-Pileser III.
- 19 Dawson 2001, pp. 190–93, notes that the Assyrian governor of Zamua had exactly as many spearmen as archers, 440 of each. This is true if the *kalāpu*, eighty in number, were Assyrian spearmen. For arguments that they were see Postgate 2000, pp. 104–5.
- 20 On these events see Mayer 1995, pp. 415–17.
- 21 See, for example, Oppenheim’s translation (*ANET*, p. 309) of the Nabonidus Stele from Istanbul, which provides from the standpoint of the priests of Marduk *ca.* 550 BC a 150-year retrospect on Babylonian sufferings and triumphs. Because of the violence of Assyria (Subartu) against the Marduk temple in Babylon, Marduk “caused the king of the Manda-hordes, who has no rival, to bow to his orders in submission and to come to his assistance. (And) he (the king of the Manda-hordes) swept on like a flood storm, above and below, right and left, avenging Babylon in retaliation. The king of the Manda-hordes, without (religious) fear, demolished the sanctuaries of all the gods of Subartu (Assyria). He also demolished the towns within the territory of Akkad which had been hostile against the king of Akkad and had not come to his assistance (in his fight against Subartu). None of their cult(-centers) he omitted, laying waste their (sacred) towns worse than a flood storm. The king of Babylon, however, for whom this sacrilegious action of Marduk was horrible, did not raise his hand against the cult(-places) or any of the great gods, but let his hair unkempt, slept on the floor (to express his pious desperation).”
- 22 On the looting of Ehulhul, in 610 BC, see Zawadski 1988, pp. 74–76.
- 23 The destructions at Ayanis (20 miles north of Van), at Yukan Anzaf, and at (Çavuştepe seem to have occurred *ca.* 645 BC. See (Çilingiroğlu and Salvini 1999, pp. 55–56.
- 24 Abdi 2001, pp. 69–73.
- 25 See von Gall 1990.
- 26 For a panoramic view of the Iranian delegations on the Persepolis *Apadana* see Walser 1966, *Falttafel* 1.
- 27 Moorey 1985, p. 22.
- 28 Moorey 1985, p. 24.
- 29 Excavations have shown that the dirk or short sword, usually made of iron, was also favored by riders in Urartu, in the Koban culture north of the Caucasus, and in Tajikistan. See Moorey 1985, p. 26.
- 30 For the date at which the Luristan bronze industry came to an end see Moorey 1974, p. 28.
- 31 Moorey 2000, p. 469, observes that the “Persian” figurines of the Achaemenid period wear “a distinctive headgear (*kyrbasia*) with a high pointed top worn by mounted warriors in the Achaemenid army. It was generally made of felt, sometimes stiffened and extravagantly pointed, at others flexible, with the point falling forward so that it resembled a cock’s comb.”
- 32 Moorey 2000, pp. 476–80.
- 33 Moorey 2000, p. 481.
- 34 Sarcophagus G 1 in Cook 1981. Cf. Greenhalgh 1973, pp. 143–44: “Now the identity of the riders is uncertain, but they are clearly Asiatic barbarians, and most probably Persians. Their bows and quivers are clearly visible fastened at their sides and projecting backwards over their horses’ rumps, and they wear some kind of soft headdress. Both these features are of

- course common to Scythians and Persians (although Scythians more often had pointed caps), but the distinctive Persian feature is the long cutlass with which five of the six cavalymen are preparing to slash at the hoplites. This weapon never occurs in the hands of a Scythian to the best of my knowledge, whereas it is used by the Persians of several Attic vases of the earlier fifth century (after 490 B.C.). The mounted Persian of an Attic Red Figure cup in Orvieto, for example, with his characteristic headdress and his bow strapped to a large quiver fastened to a belt round his waist, would suit in every detail the silhouettes of the contemporary sarcophagus. And the date certainly suits Persians rather than the once universally accepted Cimmerians, whose invasion had ended about a century and a half earlier.” Greenhalgh’s “Scythians” are of course the inhabitants of the Pontic-Caspian steppe. For the Orvieto cup see Vos 1963, Plate 14b.
- 35 Widengren 1956, p. 235. Widengren’s article provides a full discussion of the riding costume of the ancient Iranians.
- 36 Aischylos *Persians* 26: τοξοδάμαντες τ’ ἤδ’ ἵπποβάται. A form of the participle τοξοδάμαντες appears only five times in Greek literature. One instance is Euripides’ *Hippolytus* line 145. The other four are all here in the *Persians*. In addition to line 26 see lines 30, 86 and 926.
- 37 Tarn 1930, p. 55: “mounted archers, so far as I know, never appear in Persian armies in the Alexander story, and indeed it looks as if by his time the bow had ceased to play much part in Persian warfare.”
- 38 By the 420s BC very few Persian boys were taught how to shoot the bow, and Herodotos may have found the aphorism, along with much else in his chapter on the *nomoi* of the Persians (1.131–140), in the *Periegesis* of Hekataios. The strange term μοιχιδία—“adulterous offspring”—at 1.137.2 was also used by Hekataios; see Hekataios (*FrGrHist* no. 1), fragment 369.
- 39 See Widengren 1956, p. 235.
- 40 I once thought that Hellanikos of Lesbos compiled the army-list (Drews 1973, pp. 28–29), but am now persuaded that although Hellanikos may have been Herodotos’ immediate source the ultimate source was probably Hekataios. For arguments in favor of Hekataios see Armayor 1978 and Lewis 1995, pp. 113–17.
- 41 Cf. 7.61–62 and 7.84.
- 42 At 9.17–18, for example, Persian horsemen surround a unit of 1,000 Phokian infantrymen, who have unwillingly come to serve as Persian allies, and the horsemen are about to attack the Phokians with their *belea*, but then pull away. These *belea* were translated by Rawlinson as “arrows,” and by de Selincourt as “javelins”. In their commentary on this passage How and Wells suggested, “probably ‘stretched forth their javelins or throwing spears’” and offer a parallel from Thucydides. How and Wells thought it less probable that the phrase refers to bows and arrows.
- 43 Herodotos 4.46, 4.87, and 4.136.
- 44 In Kent 1950 this is Darius’ inscription d at Persepolis (DPd), lines 5–12.
- 45 Kent 1950, p. 116, inscription AmH, lines 4–9. Because Darius, in the Behistun inscription, claims to be the first king to order that an inscription be written in the language of Persia, it is unlikely that the Ariyāramna and Aršāma inscriptions date from the early sixth century BC. It is possible, however, that these early kings ordered the inscriptions to be set up in Elamite or Neo-Babylonian, and that the gold tablets represent a fifth-century translation into Old Persian.
- 46 Kent 1950, p. 116, inscription AsH, lines 5–10.
- 47 Kent 1950, p. 134, inscription DB col. 5, lines 20–23.
- 48 Kent 1950, p. 124, inscription DB II, lines 70–78.
- 49 Kent 1950, p. 127, inscription DB III, lines 40–42.
- 50 Kent 1950, p. 128, inscription DB III, lines 69–75.

- 51 Mayrhofer 1994, p. 177, describes Vīštāspa as “eine Aristokratenname aus dem Bereich des Pferderennsports, der schon auf indo-iranische Dichtersprache zurückgeht.”
 52 Kent 1950, p. 140, inscription DNb, lines 40–45.

7

Hoplites and horsemen

- 1 For a detailed look at how the hoplites fought see Lazenby 1989, Hanson 1990, and Hanson 1991.
- 2 On the Carians’ initial defeats and ultimate victory in the so-called “Ionian” revolt against Persia see Herodotos 5.117–121.
- 3 Herodotos (6.48 and 6.95) tells us that the fleet included 600 triremes but he does not specify how many horse-transporters Darius had ordered. His pairing of the horse-transporters with the triremes in both passages, however, suggests that their number was not trivial. Diodoros 11.3.9 reports that when Xerxes made his great expedition in 480 BC he had 850 horse transports.
- 4 For a much lower estimate see Evans 1993, p. 299’ “Two hundred is only a guess, but it is not an unreasonable one.” So few horsemen, however, would have scarcely been worth the bother of the transport, the concern of the Athenian generals, or the mention by our ancient sources. Cornelius Nepos, *Miltiades* 4.1, sets the number of Datis’ and Artaphernes’ infantry at 200,000 and their cavalry at 10,000. Those figures are absurd. If the Persians did lose 6,000 men at Marathon, they probably had at least twice that number at the outset (the survival of both Datis and Artaphernes indicates that a sizeable portion of the Persian force escaped). I suspect that they had at least one horseman for every ten men on the ground.
- 5 The sole support for this view comes from the *Suda*, a tenth-or eleventh-century Byzantine lexicon, in its entry on the phrase *χωρίς ἵππων*. The phrase meant, literally, “the horsemen are going their own way,” and in Byzantine parlance was a proverbial expression for schism or dissidence. For this expression the *Suda* provided an aetiology from classical antiquity, a favorite recourse among learned Byzantines. According to the *Suda*, when the Persians were at Marathon several Ionian informers let Miltiades know that the Persian horsemen were off on their own. On receipt of the information Miltiades seized the moment to attack, and so won his famous victory. Neither Herodotos nor any other writer in antiquity seems ever to have heard such a story.
- 6 Lazenby 1993, pp. 59–61, presents a good review of the evidence for and against the presence of Persian horsemen at the battle. See also Bugh 1988, pp. 9–10 and Evans 1993, pp. 293–99.
- 7 On evidence for the Stoa Poikile painting see Evans 1993, pp. 293–94.
- 8 Lazenby 1993, pp. 60–61.
- 9 Anderson 1991, p. 21, generalizes that missile weapons of any kind seem “to have been comparatively ineffective against the hoplite phalanx, or even against hoplites marching in good order on level ground.” I have not seen the dissertation of P. Blyth, *The Effectiveness of Greek Armour against Arrows in the Persian War* (PhD Dissertation, University of Reading, 1977).
- 10 Compare Tarn 1930, p. 53: “Plataea definitely killed the Persian archer as the main Persian infantry force.” And Anderson 1991, p. 21: “The triumph of the Greek spear over the Persian arrow had in fact been decided at Plataea in 479 BC, where the Persians shot for a long time (perhaps for hours) against a stationary target of thousands of Spartan hoplites sitting patiently behind their shields.”
- 11 At 9.63 Herodotos says only that Mardonios, mounted on a white horse, was protected by the thousand bravest of the Persians, and some historians have imagined that while Mardonios

was on horseback the thousand men of his bodyguard were on foot. Had Mardonios been on horseback while his thousand guardsmen were on the ground, he would have been—towering two feet above his tallest protectors—an obvious target for Greek missiles. But there is no reason to imagine him so foolish. Herodotos reports (8.113.2) that when Xerxes parted from Mardonios in Thessaly in fall of 480 BC, Mardonios was allowed to pick the best of Xerxes' force. In his enormous infantry Mardonios included all of the Immortals, an infantry force of ten thousand. For his cavalry he chose the Medians, Sakai, Bactrians and Indians, but he also selected the thousand best Persian horsemen. Those were certainly the thousand Persians who died with him at Plateaea.

- 12 Our only source on the site of the battle is Plutarch, *Artaxerxes* 8.2. Filling in what Xenophon had omitted, Plutarch says the place was called Κοῦναῖα, and was 500 stades (60 miles) from Babylon.
- 13 The information from Xenophon's *Anabasis* (1.8.6) suggests that the only horsemen Cyrus brought with him were the 600 heavy-armed horsemen of his personal guard, while his infantry numbered 112,900, of whom 10,400 were the Greek hoplites. The 600 horsemen of Cyrus's guard carried spears and short swords and their horses wore both frontlets and breast-armor. Cyrus must have had more than 600 horsemen altogether, since in an earlier passage (1.6.2) of the *Anabasis* we find the treacherous Orontas planning to take a thousand of Cyrus' horsemen over to the king's side. Nevertheless, the horsemen were a very small part of Cyrus' army. According to Diodoros (14.19.7) that army included 70,000 Asiatic and 13,000 Greek infantrymen, and only 3,000 horsemen. With approximately 96 percent of his force on foot, Cyrus calculated that the battle would be won or lost by the infantry, and especially by the Greek hoplites.
- 14 Plutarch, *Artaxerxes* 10.
- 15 The quotation is from Xenophon, *Anabasis* 1.8.20. Diodoros 14.23.1–2 reports that Klearchos the Lakedaimonian had given orders for the hoplites to start at a walk, and then to break into a run: "The purpose of this was to make the shots of arrows and other missiles pass overhead. When Cyrus' men got near to the army of the king, the volley of missiles launched against them was as great as you might suppose from a force of 400,000 men. But however that might be, only for a brief time was it a battle of missiles (*palta*), and the rest of the time it was a hand-to-hand battle." Diodoros also reports (14.24.6) that not a Greek was killed, although a few were wounded, and that Artaxerxes lost 15,000 men.
- 16 On the numbers of Persian cavalry available for Gaugamela see Tarn 1930, pp. 153–55.
- 17 Although the details of Chaeronea have not survived, see Lazenby 1989, p. 91, and Worley 1994, pp. 160–63, for plausible reconstructions.
- 18 Spence 1993, pp. 177–78, makes the pertinent observation that the cavalry wedge (which seems to have been unknown to Xenophon) was designed specifically to penetrate a close-order infantry formation.
- 19 Tarn 1930, p. 62.
- 20 Latacz 1977, pp. 26–44 ("Das Phalanx-Problem"), argued that hoplite warfare came into being gradually and that something similar was already conventional at the time that the *Iliad* was composed. Most scholars, however, continue to believe that it began around the middle of the seventh century. It is usually seen as the result of economic, social or political changes, and not as a response to a military challenge. On the long debate see Santosuosso 1997, pp. 9–12.
- 21 For reflections of hoplite warfare in the surviving lines of poetry by Kallinos of Ephesos see Latacz 1977, pp. 229–32.
- 22 Ray 1995, pp. 1189–90.
- 23 Frag. 216 in West 1971. The scholiast to Plato's *Laches* 187b observed that "the Carians seem to have been the first to serve as mercenaries," and then cited Archilochos' line, "and I shall be called a soldier of fortune (*epikouros*), like a Carian."
- 24 Plutarch, *Moralia* 302A.

25 The claim, first attested in Diodoros, is discounted by Lazenby and Whitehead 1996.

26 *Natural History* 7.200.

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INDEX

Note: page numbers in *italics* denote illustrations

- Abbakallalla 32, 33
Achaemenids 131, 133–4, 136–7, 138;
 see also Persians
Adrianople, Battle of 56, 147, 167n100
Ahuramazda 136–7
Aischylos 133
Alaca Hüyük 63, 115
Alexander II, Emperor of Russia 2
Alexander the Great:
 cavalry 56, 59, 143;
 at Chaeronea 143, 144;
in Asia 134, 142–3
Alyattes of Lydia 105, 112, 118
Amazons 149n2
Ammianus Marcellinus 168n104, 184n15
Anatolia: bits 70;
 burials 63;
 chariots 51;
 cheekpieces 88;
 horsemanship 76–7;
 infantry 145;
 Kimmerians 105–6, 110, 144;
 riding 43–4, 63;
 Skythians 105–6
Anderson, J.K. 4, 66, 72, 96
Andronovo villages 27, 46–7, 62, 96, 158n63, 158n71
Anthony, David: 6, 14, 15, 19, 20, 28, 42, 50, 61, 69, 98, 154n17, 159n72
Antigonos the One-Eyed 144
Antiochos III 168n102
antler artifacts 15–19, 16–18, 155n27;
 cheekpieces 15–16, 22, 26, 59, 70, 72, 83, 94, 155n26;
 see also *Stangenknebel*
Aphrodite Ourania temple 114
Aqhat, *Tale of* 100
Arabic raiders 56, 115, 147
Arbaku:
 see Harpagos
archer-pairs 103, 123, 127–8
archers 103;

- Assyrian 57, 66, 127;
 - in chariots 66, 183n9;
 - infantry 124;
 - Medians 57;
 - and shield-bearers 123, 127;
 - see also* mounted warfare, archers
- Archilochos 145
- Aristeas of Prokonnesos 121, 189–90 n75
- armies' daily rate of progress 104–5, 124
- armor: of Carians 145–6;
 - hoplites 123, 144, 145;
 - infantry 127
- arrowheads 100
- Artybios 139
- Arzhan 62, 74–6, 92, 99
- Ashkelon 114
- Ashurbanipal:
 - annals 186n33;
 - and Gyges 107–8;
 - Rassam Cylinder 108–9, 118, 185n27, 185–6 n29;
 - Shamash inquiries 111–12;
 - and Skythians 114
- Ashurnasirpal II:
 - campaign 173–4 n39;
 - horse tributes 77–8, 173n38;
 - Kalhu 128;
 - palace reliefs 65–6, 67, 76, 82, 102, 170n3, 174n42
- ass-onager hybrids 29
- asses 31, 37, 41
- Assur 126, 128
- Assyria, Assyrians 76–7, 107–9, 124, 128–9, 148;
 - chariotry 66, 80, 97;
 - infantry 104, 123, 126–8;
 - infantry archers 103, 123, 127–8;
 - and Kimmerians 107–9, 111–12, 119;
 - martingale 82–3;
 - mounted troops 57, 65–6, 67, 69, 73, 81–2, 126–7, 139;
 - and Skythians 112–14, 119;
 - see also* Ashurbanipal, Ashurnasirpal II, Esarhaddon, horse tributes, Sargon II, Sennacherib
- Astyages (Ištumegu) 125, 136, 190n7
- Athenians 58, 71, 168n108
- athletic riding:
 - see* riding, athletic
- Attila 104
- axle, pivoting 29, 159n77
- Azzaroli, Augusto 6, 9, 21, 41–2, 60–1
- Babylon 129–30, 192n21
- Babylonian Chronicles 124, 126
- backward seat 38, 41–2, 49, 52–3, 85–6
- Bactria 8, 56

- Badre, Leila 33–4, 34, 36, 161n16
 Bahdi-Lim, palace official 48–9
 Bakker, Jan Albert 159n73
 Balkwill, C.J. 93–4, 180n106
 Barber, Elizabeth 82
 Barclay, Harold 46–7, 164n54
 bareback riding:
 see riding style
 Bartatua:
 see Protothyes
 battle-axes 58, 61, 70, 132, 150–1n20
 Bell Beaker Folk 4, 12, 150n13, 169n115
 Benecke, Norbert 14
 Bibikova, V.I. 5–6, 14, 15, 152n38, 154n15
 bits (cheekpieces and mouthpieces) 19, 49, 62, 83–98;
 action of 83–4;
 bronze 85, 88–98;
 for chariot horses 49, 70–1, 87–9;
 “Hyksos” 88–9;
 jointed snaffle 89–92;
 “neolithic” 2, 15–19, 25–6, 59;
 organic 4, 83–5, 84;
 origins of 50–1, 83;
 run-out 92;
 severe 90–1, 92, 93;
 Stangenknebel 16, 17, 70–1, 83;
 see also cheekpieces
 bit-wear 15, 20, 98
 Bökönyi, Sandor 6,60,81
 Bokovenko, Nikolai 7, 19, 46–7, 76, 85, 94,156n35,164n57,171n14
 Botai site 20, 152n28, 157n53
 bows: composite 101, 103, 183n7;
 Pazyryk 183n4;
 reflex 100–1;
 Skythian 101, 183n4
 braking power:
 bits 83–5, 89;
 nosebands 88, 179n89
 breaststraps 66, 82
 breechstraps 66, 82
 bridles:
 see bits, cheekpieces
British Archaeological Reports 5
 Brown, Dorcas 15, 20
 burials:
 Anatolia 63;
 chariot burials 62, 96–7;
 Cyprus 93;
 horse 14, 25, 62–3, 76;
 horse bones 29–30;
 Iron Age 76;
 Krivoe Ozero 50–1;

- Maikop 31, 32, 63;
- Skythians 15;
- Tudorovo 31;
- vehicles 159n74;
- see also* head and hoofs burial
- Bury, J.B. 167n100

- Cambyses 135
- camels 168n107
- Carians 145–6, 194n2, 196n23
- Carrhae, Battle of 56, 168n103
- Catacomb Graves 26, 28, 159n74, 167n98
- Catalaunian Fields 104
- cattle 27, 74, 118
- “cavalier” figurines 33–6, 65, 133, 160n11, 171n12
- cavalry (tactical unit): absence of in LB Near East 70–1;
 - under Alexander the Great 56, 59, 143;
 - in American Civil War 104;
 - Assyrian 65–6;
 - in China 62;
 - daily progress 104–5;
 - decline of 103;
 - under Demetrios Poliorketes 144;
 - Gothic 56;
 - in Greco-Roman warfare 56–8, 143–4;
 - in late medieval Europe 56, 103–4;
 - at Marathon 140–1;
 - Median 123–4, 126–9;
 - Parthian and Sassanid 56, 147;
 - Persian 130–8, 139–2;
 - shock (*see* mounted warfare, charge);
 - Urtatian 77–8;
 - wedge 143–4;
 - see also* mounted warfare
- cavessons 88
- Chaeronea, Battle of 143, 144
- Chaldeans 129
- chariot burials 62, 96–7
- chariots (and chariot horses) 1–2, 65;
 - Assyrian 78, 80, 127;
 - in China 54;
 - control of 52–3, 70, 87–8, 97–9;
 - in Cyprus 93;
 - in Europe 54, 70–2, 85;
 - Hittite 70–1;
 - Kikkuli’s manual 3;
 - Mycenaean 90;
 - origins of 49–51, 63;
 - scythed 142;
 - Sintashta-Petrovka burials 50, 62;
 - in steppe 55, 62, 63, 85, 90;

- warfare 3, 49, 52, 65, 69, 71
- cheekpieces (*see also* bits):
 - action of 83;
 - Anatolian 88;
 - for chariot horses 70;
 - earliest known 50–1;
 - Europe 25–6, 177n68, n70, 177–8n73;
 - Krivoe Ozero burials 50–1;
 - Luristan 79;
 - Mengen grave 180n106;
 - Mycenae 50;
 - “neolithic” 14–19, 25–6;
 - Sintashta- Petrovka area 165n74;
 - studded 88;
 - tacked 88, 90–1;
 - see also Stangenknebel*
- Cherchen mummies 82, 99, 122, 158n70
- Childe, V.Gordon 5, 150–1n20
- Ch'in Dynasty 62
- Ch'in Shih-huang-ti, Emperor 62
- China:
 - horses 163n45;
 - pants 73, 82;
 - riding 44, 62, 72–3;
 - saddle 162n32;
 - Skythians 187n53;
 - stirrups 167n101
- Clark, Grahame 95, 150–1n20, 181n115
- Clutton-Brock, Juliette 9, 21, 41, 42
- Cogan, Mordechai 107–8
- Contamine, Philippe 167n100
- Corcelettes bit 83–4, 177n72
- Cozzoli, Umberto 185n22, 187–8n60, 190n2
- Crassus, M.Licinius 56
- Croesus 134, 135
- Crouwel, Joost 4, 33, 42, 49, 51
- Csepel-Háros site 12, 25, 44
- Current Anthropology* 6
- cylinder seals 31–2, 40, 43–4, 78, 102, 150n18
- Cyprus 52, 93, 171n12
- Cyrus the Great 124–5, 128, 135, 136;
 - self-identification 190n9
- Cyrus the Younger 66, 141–2
- Daiukku:
 - see* Deiokes
- Dalley, Stephanie 76–7
- Darius I 134–8, 148, 190n4, 194n3
- Darius III 143
- Davis-Kimball, Jeannine 47, 164n58
- Deinon 142

- Deiokes (Daiukku) 130
- Demetrios of Skepsis 110
- Demetrios Poliorketes 144
- dendrochronology 74, 76
- Denison, George 2
- Dereivka site 5–6, 12–19, 24, 59, 60, 69, 97–8
- Diakonoff, Igor 119
- Diamond, Jared 6, 152n29
- Dietz, Ute Luise 17, 26, 46, 155n29, 163n51, 177n69, 178n85, 179–80n98
- Diocletian 115
- Diodoros 142, 196n13, 196n15
- Diomedes 72, 149n3
- Dobrudja, Battle in 147
- donkey-seat:
 - see backward sear
- Downs, James 41

- Edmonds, J.M. 110
- Egypt 1, 44, 52–3, 71, 88–9
- Ehulhul temple precinct 129
- Ekbatana 124, 191n10
- Elamite kings 190n8
- Ephesos 110, 116, 144
- Esarhaddon 111–14, 119, 126, 188n62, 188–9n66
- Ešpai 111
- Eurasian steppe: 4, 5–6, 8–9, 11–30, 31, 42, 44–8, 51, 55, 59–64, 69, 73–6, 85, 90, 94–9, 101–2
- Europe, narrow definition of 11, 153n3
- Euthydemos 168n102
- Ezekiel 116–18

- Fahren-Reiten* controversy 3–4, 54
- Ferrill, Arther 2
- Fertile Crescent 33–4
- figurines:
 - asses 31;
 - bronze 48, 54, 101;
 - Cyprus 52;
 - Koban burial 48, 61–2, 73;
 - Kourion 35–6;
 - mother goddess 33;
 - Mycenae 53;
 - Persian 35, 160–1n14, 193n31;
 - Selenkahiye 161n16;
 - Syria 33–4, 36;
 - Tell es-Sweyhat 166n77;
 - Urkes 36–7;
 - see also “cavalier” figurines
- Fravartiš:
 - see Phraortes
- Fritigern 56

- Gaugamela 143, 144
 Genghis Khan 6, 104, 184n17
 Gening, Vladimir 50
 Ghirshman, Roman 78, 81, 174n43, n48
 Gimbutas, Marija, 5, 6, 14, 21–2, 24, 46–7, 55, 59–60, 63–4, 97–8, 151n21, 163–4n53, 169n115
Gimirrai (see also Kimmerians) 107–9, 111, 118, 120
 Giordano, Luca 1
 girths 38, 66, 82
 goads 41
gorytos 101, 132, 133
 Gog, riders of 116–18, 187n58
 Goodrich, C.S. 162n32
 Gordion 116
 Gordion altar 68, 99
 Goths 56, 115, 147, 184n15
 Granicus river 142–3
 greaves 146
 Greece, classical:
 bits 90;
 cavalry 56;
 hippeis 58, 59, 82;
 horse driving/riding 1, 2, 4, 99;
 horsemeat 10;
 military riding 72;
 see also hoplites
 Greenhalgh, P.A.L. 171–2n23
 Gregory III, Pope 10
 Gryaznov, M.P. 73, 74, 97
 Gyges of Lydia 107–8, 108–9, 118, 145, 187n58
- halters 24, 37
 Hammurabi 48, 49, 54
 Han Dynasty 62, 76
 Hančar, Anna 183n4
 Hančar, Franz:
 bits 95–6;
 Catacomb Culture 167n98;
 horsemeat 10;
 riding 4, 95–6;
 rock carvings 47–8, 163–4n53
 Hanfmann, George 109
 Hannibal 56
 Harpagos (Arbaku) 125, 135
 hats 122, 193n31, n34
 Häusler, Alexander 5, 7, 14, 151n22, 152n31
 head and hoofs burial 15, 24, 98, 154–5n20
 Hekataios of Miletos 134
 Hellanikos of Lesbos 193n40
 herding 27–8;
 of horses 14, 20–4, 77–8
 Hermes, Gertrud 2–3, 10, 95, 149n7, 181n113

Herodotos:

Alyattes of Lydia 118;
 archers, mounted 134–5;
 Aristes 189–90n75;
 Artybios 139;
 Cambyses 135;
 Carians 145–6;
 Cyrus 124–5;
 Deiokes 130;
 Harpagos 125;
 horsemanship 95;
 horse- transports 194n3;
 Kimmerians 105–7, 112–13, 115–16, 121–2;
 Kyaxares 124;
 Mardonios 195n11;
 Medians 130, 131;
 Persian boys 57, 193n38;
 Persian horsemanship 134, 136;
 Phraortes 191 n 12;
 Plataea 141;
 Protothyres 112–13, 191n12;
 Skythians 62–3, 105–7, 112–13, 114, 115, 121–2, 168n106

hippeis 58, 59, 82

Hittites 52, 70–1, 162n43, 166n80

Homer 1;

Iliad 2, 72, 95, 171–2n23;
Odyssey 95, 120–1

Hood, Sinclair 53

hoplites 139–48;

armor 123, 144, 145;
 Athenians' 58, 140–1;
 and cavalry 56, 58, 139, 141, 143, 144

horse:

domestication 8, 11–15, 24–5;
 draft animal 3, 29, 55;
 food animal (*see* horsemeat);
 habitat of 7, 8, 9, 11–12, 44, 124, 126;
 herding of (*see* herding);
 in graves 5, 14, 25, 55, 62–3, 74, 76;
 pack animal 22, 24, 69;
 size 9, 59, 81;
 species 7;
 teeth 8, 15, 20, 84, 98;
 vision 8;
 water requirements 8, 57;
 wild 7–9

horsemeat 10–13, 24–5, 29–30, 44–6, 55, 85

horse-transport 140, 194n3

horse tributes 77–8, 126, 148, 173n38

Hungary 12, 54

Huns 6, 60, 103–4, 105, 184n15

hunting 14, 99–100, 102

Hüttel, Hans-Georg 70–1, 72, 85, 97, 178–9n86
 “Hyksos” bits 53, 88–9, 179n91

India 44

Indo-European languages 3, 5, 48, 69, 112

infantry:

absence of in LB Near East 71;
 Assyrian 103, 123, 126–8;
 Carian 139, 145–6;
 Carolingian 56;
 Chaldaean 127–8;
 Gothic 56, 147;
 Greek 56, 58–9
 (*see also* hoplites);
 Median 123–4, 126, 130;
 Persian 103, 123, 134–5, 138, 139–43;
 Roman 56, 58–9, 147

Ionian Revolt 139

Ipsus 144, 168n102

Iran 76–81, 77;

90, 95, 101–2, 111, 113–14, 118–20, 123–38

Isaiah 129

Iškuzāi

(*see also* Skythians) 112–14, 118, 119

Israelites 10, 66

Issus 143, 144

Ištumegu

(*see also* Astyages) 190n7

Ivantchik, Askold 111, 119, 185n22, 185n28, 186n33, 188n62

javelins 57, 123, 135, 142, 194n42

Jeremiah 129–30

Jettmar, Karl 118, 172–3n26

Job, Book of 9

Julian, emperor 147

Kalhu 65–6, 67, 128–9

Kallinos of Ephesos 110

Kandaules 145

Kapara, ruler of Halaf 68

Karageorghis, Vassos 93, 180n101

Karniyarik Tepe 109, 185n28

Kazakhstan 8, 20, 22, 94

Keegan, John 2, 58, 59

Khazanov, Anatoly 73–4, 97, 158n67, 172n26

Kikkuli's manual 3

Kimmerians

(*see also* *Gimirrai*):

105, 106–12, 115–16, 118–22, 123–4

Kish seal-impression 33

Klazomenian sarcophagus 103, 104, 133, 139

Klearchos 196n15
Knebeltrense 181n113
 Koban figurine 48, 61-2, 73
 Kothar wa-Khasis 100
 Kounaxa, Battle of 141-2, 195n12
 Kourion figurines 35-6
 Krivoe Ozero burials 50-1
 Kültepe site 43, 51
 Kura-Araxes valleys 12, 85, 91
kurgan (burial mound):
 5, 24, 26, 28, 59-60, 63-4, 74, 75, 151n21, 169n115, 151n22;
 Kuzmina, Elena 7, 97, 152n31, 165n74
 Kyaxares (Umakištar, Uvakštra) 106, 124-30, 139, 147-8, 190n4

Labraunda 145, 146
 Lakedaimon:
 see Sparta
 lances 57, 61, 135, 142
 Lanfranchi, Giovanni 120, 189n73
 Larocque, François Antoine 162n31
 Lascaux cave paintings 7
 Latacz, J. 196n20
 Lazenby, John 140
 Levine, Marsha 7, 14, 21, 22-3, 47, 152n1, 164n58
 Lichardus, Jan 25-6, 61
 Lichardus-Itten, Marion 61
 lines/nose-rings 51
 Littauer, Mary Aiken 4, 33, 41, 42, 49, 51, 92,96
 lost wax metallurgy 93
 Luristan 78-81;
 bronze bits 79, 90, 133, 175n50;
 graves 174-5n48;
 jointed snaffles 89;
 metallurgy 78-80, 93, 112, 175-6n52, 175n49, 188n63
 Luschan, F.von 68
 Lydians 107, 135, 144
 Lysias 149n2

Magyars 103-4, 105
 Maikop burial 31, 32, 63
 Mair, Victor 82, 176n59
 Mallory, James 5, 74, 76, 82
 Mannea 114, 126
 Marathon, Battle of 58, 140-1
 Mardonios 141, 143, 195n11
 Marduk 192n21
 mare's milk 63, 85, 116
 Maringer, Johannes 48
 martingale 82-3
 Mayer, Walter 192n18
 Media, Medians 57, 81, 106, 113-15, 118-19, 123-38, 139, 147-8

- Mengen grave 180n106
 Menua, King 78
 mercenaries 145, 196n23
 mesolithic communities 11,14
 Mesopotamia 35, 38, 77, 105, 128
 Meyer, Gerhard 68
 Midas of Gordion 110-11,144
 Miltiades 195n5
 Minusinsk basin, 46, 76, 94
 Mirnœ site 14
 Mongolia 8, 22
 Mongols 60, 103-4, 105, 184n15
 Moorey, Roger 35-6, 37, 38, 41, 52, 65, 131, 133, 160-1n14, 162n33
 mother goddess figurine 33
 mounted warfare:
 archers 56-7, 71-2, 99-103, 104, 123, 133-5, 137-8, 140-1, 145;
 attribution to neolithic period 4, 5, 6, 56, 59-61, 69-70;
 charge 58-9, 71, 103-4, 122, 126-8, 133, 143-4, 145;
 earliest evidence for 1, 65-7, 71-2, 99;
 pursuit 57-8;
 types attested in antiquity 56-8, 71;
 see also cavalry
 mounting platforms 176-7n66
 mouthpieces 79, 83-5, 88-9, 90-4;
 see also bits
 mummies 82, 99, 122, 158n70
 Mycenae 44, 50, 53-4, 90
- Nabonidus 128
 Nabonidus Stele 192n21
 Nabopolassar 129
 Native Americans 20, 40, 86;
 see also Plains Indians
 Nebuchadnezzar 130
 Nepos, Cornelius 140, 194n4
 Nineveh 106, 107, 129;
 horse-lists 191n15
 nomadism 4, 27, 63;
 origins of 26-7, 73-4, 118, 119, 122, 172n25;
 see also semi-nomadism
 nosebands 52-3, 66, 68, 88, 179n88, n89
 nose-rings 19, 24, 36-7, 41, 42-3, 51
 Novosvobodnaja site 61
 Numidian horsemen 56, 86, 87, 178n83
- O'Connell, R.L. 6, 60
 Odysseus 72, 120-1, 149n3
 Olympic Games 182n118
 onagers 29, 37, 41
 Opis, Battle of 128
 Oppenheim, M.von 68

Orontas 195–6n13

Orosius 168n104

orthostats 68

O'Steen, Stuart 183n9

Owen, David 31–2, 40

oxen 28–9

pack asses 31

pack-horses:

carts 29;

nose-rings 41;

riding of 22, 23–4, 25, 30;

“secondary product” 24, 69

palta 142

pants:

barbarians 174n42;

China 73, 82;

Medians 81, 131, 133;

Persians 134, 193n34;

Skythians 82, 122

“Parthian shot” 101–3, 135, 170n3, 173n27, 183n8

Parthians 147;

archers 56, 57, 76

pastoralism 26–7, 50, 60, 73, 172n26

Pausanias 140

Pazyryk Style:

bridle 19;

horse 62, 81;

kurgans 74, 75;

wall hanging 74, 75, 82

Peisistratos 168n108

Peloponnesian War 58

Persepolis 131, 136

Persian Wars 58, 133–4, 140–1

Persia, Persians 35, 57, 78, 103, 123, 124, 131–8, 139–43, 148

petroglyphs 46–7, 164n58

Philip II of Macedon 143–4

Phokian infantry 193–4n42

Phraortes (Fravartiš) 137, 191n12

Phrygians 144

Piggott, Stuart 159n76, n77, 165n73

Pit-Graves 26, 28, 29–30, 61, 159n74

Plains Indians 6, 20, 40, 57, 86–7, 161–2n30, 178n82, 178n85

plaques, clay 37–8, 39

Plataea, Battle of 135, 141, 148, 195n10

Pliny the Elder 146

Plutarch 145, 195n12

Polybios 168n102

Pontic-Caspian steppe

(see also Eurasian steppe):

11–20, 24–30, 31–2, 44–8, 50, 55, 56, 59–64, 69, 73, 83, 91–2, 95–7, 100–1, 119, 121–2, 135

- Poseidonios 121
 Postgate, J.N. 127
 pot engraving 54
 Potratz, Hanns 3–4, 10, 42, 79, 86, 97, 80–1, 157n48, 168–9n108, 182n123
 Powell, T.G.E. 54
 Prayon, Friedhelm 68
 Proto-Indo-European speakers 5, 22, 64, 70, 97–8, 149n7
 Protothyes (Bartatua) 112–13, 191 n 12
 Przewalski's horse 8
 Psammetichos of Egypt 118, 145

 raiders 56, 61, 105–19, 122–4, 128, 130, 144–5, 147
 Rassam Cylinder 108–9, 118, 185n27, 185–6n29
 Rassamakin, Yuri 154n12, 155n26, 158n63
 Rawlinson, Henry 78
 recreational riding:
 see riding, athletic
 reindeer 11
 Renfrew, Colin 7, 44, 54, 62, 149n1, 163n48, 170n125
 representations of riders 1, 14–15, 31, 44, 52, 54, 62, 65 163n48;
 China 72–3;
 cylinder seals 40, 43–4, 78;
 plaques 37–8, 39;
 pottery 30, 31, 54;
 rock carvings 46–8;
 stelae 31, 61, 68;
 see also figurines;
 rock carvings;
 vase paintings
Revue Internationale d'Histoire Militaire 1
 Reza Shah, Mohammed 131
 riding:
 by Assyrians 57, 65, 82–3;
 athletic 36–8, 33, 39, 40–4, 48–9, 51–2, 54;
 by chariot crewmen 52–3;
 in China 44, 62, 72–3, 76;
 in India 44;
 by Kimmerian and Skythian raiders 70, 95, 105, 110, 115–6, 122, 144, 147;
 in Iron Age Greece 57–8, 72, 82, 92, 95–6, 123;
 in LB Greece 44, 53–4, 72;
 in LB Near East 52–3, 65, 69, 70–2;
 by Libyans and Numidians 86–7;
 by Native Americans 40, 86–7;
 in Near East ca. 2000 BC 31–43;
 in prehistoric steppe 42, 44–8, 55–6, 61–2, 69, 73–6, 85, 94, 99, 101–2;
 in temperate Europe 44, 54, 70–1, 72, 94;
 in time of Hammurabi 48–9, 54;
 by western Iranians 57, 69, 76–81, 85, 101–2, 119, 122, 123–4, 126–8, 130–8
 riding style:
 astride 33;
 bareback 33, 38, 40, 82, 162n31, 178n78;

- dignity 48–9;
 - position 34, 38, 41, 53, 64, 65, 68–9, 82, 99, 161n24;
 - side saddle 34, 43;
 - see also* backward seat
- rock carvings 46–8, 62, 72, 157n47, 163–4n53, 164n58
- Roe, FrankG. 162n31
- Rolle, Renate 101
- Rome, classical 10, 56, 58;
 - legions 56, 148
- Rostovtzeff, M.I. 102
- Rozwadowski, Andrzej 47, 164n58
- Rudenko, Sergei 74, 97
- rustlers 74, 118;
 - see also* raiders
- Rydbeck, Otto 150–1n20

- saddle cloths 38, 66, 81–2, 86
- saddles:
 - Arzhan and Pazyryk 74–5;
 - China 162n32;
 - comfort 38, 40–1;
 - frame 176n60;
 - leather 73, 82;
 - pad 82, 86;
 - Persians 82;
 - stirrups 162n38;
 - treed 81–2, 176n58
- Sakai 94, 105, 137
- Samaria 66
- Sandanis 134
- Sardanapalus 191n10
- Sardis 109, 116
- Sardis, Battle of 135
- Sargon II 66, 76, 147, 170n6, 186n39;
 - defeat and death of 111, 186n41
- Sarmatians 60
- Sassanids 147
- Sasson, Jack 185n27
- scalp raids 40, 57, 161–2n30
- scepters 30, 31, 160n83
- Schliemann, Heinrich 50–1, 179n93
- seals 33, 43
- “secondary products” 24, 69
- Selenkahiye figurines 161n16
- semi-nomadism 27–9, 50
- Semitic phonology 112
- Sennacherib 111, 186n39
- Shaft Graves 50, 90, 179n93
- Shah, Reza 130–1
- Shalmaneser III 66, 67, 73, 126
- Shamash 111–14, 119, 124, 188n62, 188–9n66

- sheep herding 28, 74, 166n79
 Sherratt, Andrew 28, 51, 149n1, 159n76, 165n76
 shield-bearers 103, 123, 127, 145–6, 183–4n12
 Shu-Sin, King of Ur 32
 Siberia 74, 76
 Sidon sarcophagus 133
 Sinai peninsula 157n47
 Sinope 120
 Sintashta-Petrovka zone 50, 62, 96–7, 165n74
 Siyalk Cemetery B 78, 81, 174n43
Skolotoi 122
 Skythians
 (*see also Iškuzāi*) 105–7, 112–16, 118, 122–4, 125–6
 “Skythians” of Pontic-Caspian steppe (*see also Skolotoi*) 15, 17–18, 27, 56–7, 60, 62–3, 82, 94,
 101, 116, 121–2, 183n4, 193n34
 sledges 29
 Smirnov, K.F. 4, 96
 snaffles:
 see bits and mouthpieces
 Solutré site 10–11
 Spain 10–11, 153n2
sparabara (Persian shield-bearers) 123, 183–4n12
 Sparta 58, 141, 195n10
 spearmen 124, 127
 spears 57, 194n42
 Srednij Stog zone 24, 154n12, 157n46
 stallions 8–9, 14
Stangenknebel (cheekpiece) 16, 17, 70, 71, 83, 84
 stelae 31, 61, 68
 stirrups 56, 162n38, 167n101, 176–7n66
 Strabo 146, 186n36
 Stuart, J.E.B. 104
 Sulimirski, Tadeusz 1
 surcingle 38
 swords for slashing 70, 103, 104, 184n13
 Syria 33–4, 36, 37, 52
- Tadmor, Hayim 107–8, 186n41
 Tagar Culture 46–7, 76, 94
 Tamgaly petroglyph 164n58
 Tarn, W.W. 143–4, 195n10
 tarpan 8
 Tegneby rock carvings 72
 Telegin, Dmitriy 5–6, 12–15, 17–18, 24, 69, 98
 Tell Asmar 38
 Tell es-Sweyhat 36, 37, 166n77
 Tell Halaf 68
 Tell Leilan 52
 Tell Mozan 36–7
 Tell Rimaah 52
 Tell Selenkahiye 36

terracotta models 62, 82
 Thucydides 194n42
 Tiglath-Pileser III 66
 Timber Graves 26, 46–7, 62, 96, 167n98, n99, 178n76
 Trapezos 120
 Trench, Charles 9
 Trichterbecher (TRB) culture 25
 Tripolye settlements 25, 44, 46, 157n55
 Tudorovo burial 31
 Tukulti-Ninurta II 65
 Turkey 12

Umakištar 124;
 see also Kyaxares
 Ur 32, 33, 38, 54
 Urartu 77, 78, 111, 130, 148, 191n14
 Urkesh figurines 36–7

Vahyazdata 137
 vase paintings:
 Greek 72;
 javelins 123;
 Parthian shot 183n8;
 Persian riders 133;
 slashing swords 103, 104;
sparabara 183–4n12
 Vegetius 147
 vehicle burials 159n74
 vehicles, wheeled 3, 28–9, 49, 152n31, 159n73;
 see also chariots;
 wagons
 Vinogradov, Nikolai 50
 Visigoths 56

wagons 27, 28, 159n77
 wall hanging, Pazyryk 74, 75, 82
 wheel, spoked 29, 50, 51
 White, Lynn 167n101
 Wiesner, Joseph (Josef) 3, 10, 53–4, 95
 Wilford, John Noble 155n22
 Winckler, Hugo 113–14

Xenophon:
 Cyrus 136, 195–6n13;
 hoplites 196n15;
 horsemanship 58, 59, 87, 95, 178n84;
 Kounaxa 142;
 Medians 131
 Xerxes 134, 141, 195n11

Yablonsky, Leonid 94

Yadin, Yigael 1-2

Yamnaya period 27–8, 30, 44, 46, 158n63, 159n72, 172n25

yurts 27

Zaghunluq:

burials 176n59;

grave goods 73;

mummies 82, 99, 122, 158n70;

saddle of leather 82

Zagros mountains 77–8, 78–80

Zarins, Juris 155n22

Zawadzki, Stefan 124, 191n13

Zimmer, Stefan 70, 156n44

Zimri-Lim, King 48-9